NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

779

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Mohnike Adobe

other names/site number CA-SDI-8124H, San Diego Museum of Man SDM-W-6251, ,

2. Location

street & number 12115 Black Mountain Road not for publication ___
city or town San Diego vicinity ___
state California code CA county San Diego County code 073 zip code 92126

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this __X__ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property __X__ meets ____ does not meet the National Register Criteria. I recommend that this property be considered significant ___ nationally ___ statewide __X__ locally. (___ See continuation sheet for additional comments.)

5/30/02
signature of certifying official Date

California Office of Historic Preservation
state or Federal agency and bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria. (___ See continuation sheet for additional comments.)

signature of commenting or other official Date

state or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

X entered in the National Register _____ _____
___ See continuation sheet.
____ determined eligible for the National Register _____ _____
___ See continuation sheet.
____ determined not eligible for the National Register _____ _____

____ removed from the National Register _____ _____

____ other (explain): _____

Signature of Keeper 7/17/02 Date of Action

5. Classification

Ownership of Property (Check as many boxes as apply)
___ private
X public-local
___ public-State
___ public-Federal

Category of Property (Check only one box)
X building(s)
___ district
___ site
___ structure
___ object

Number of Resources within Property

Contributing	Noncontributing	
5	2	buildings
		sites
1		structures
		objects
6	2	Total

Number of contributing resources previously listed in the National Register 0

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.) N/A

6. Function or Use

Historic Functions (Enter categories from instructions)
Cat: Domestic Sub: single dwelling

Current Functions (Enter categories from instructions)
Cat: Domestic Sub: single dwelling

7. Description

Architectural Classification (Enter categories from instructions)
Late 19th and Early 20th Century American Movements
Other: Victorian Adobe/ Adobe Revival Systems

Materials (Enter categories from instructions)

foundation	concrete
roof	other: composite rolled roofing
walls	adobe
	wood
other	wood
	concrete
	cement plaster
	lime plaster

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

__ A Property is associated with events that have made a significant contribution to the broad patterns of our history.

__ B Property is associated with the lives of persons significant in our past.

X C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

X D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

____ A owned by a religious institution or used for religious purposes.

____ B removed from its original location.

____ C a birthplace or a grave.

____ D a cemetery.

____ E a reconstructed building, object, or structure.

____ F a commemorative property.

____ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions) Architecture

Period of Significance 1910

Significant Dates 1910

Significant Person (Complete if Criterion B is marked above)

Cultural Affiliation _____

Architect/Builder Mohnike, Charles Frederick

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)
___ preliminary determination of individual listing (36 CFR 67) has been requested.
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # _____
___ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data
___ State Historic Preservation Office
___ Other State agency
___ Federal agency
X Local government
___ University
X Other
Name of repository: OHP/CHRIS South Coastal Information Center 4283 El Cajon Blvd., San Diego, CA 92105
San Diego Historical Society 1649 El Prado, Balboa Park, San Diego, CA 92101
San Diego County, Department of Parks and Recreation, Environmental Education Office
4370 Sweetwater Road S-233, Bonita, CA 91902

10. Geographical Data

Acreage of Property 16

UTM References (Place additional UTM references on a continuation sheet)

Zone	Easting	Northing
1 11	488000	3844570

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Nicole J. Purvis, Preservation Planning Intern and Angeles Leira, Principal Planner

organization City of San Diego, Long-Range Planning date April , 2002

street & number 202 C Street, MS-4A telephone 619/ 236-7254

city or town San Diego state CA zip code 92101

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps
A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs
Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name City of San Diego c/o Park & Recreation Department

street & number 202 C Street telephone 619/525-8213

city or town San Diego state CA zip code 92101

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).
Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

Narrative Description

The Mohnike Adobe is located at 12115 Black Mountain Road, in the upper eastern portion of Los Penasquitos Canyon Preserve, San Diego, San Diego County, California. The Preserve is approximately 1,600 acres and extends from Interstate 15 to Interstate 805. Historically, the Preserve is within the 8,486 acre *Rancho Santa Maria de Los Penasquitos*[1], the first private land grant in San Diego County.[2] Situated 17 miles northeast of downtown San Diego, the Preserve, is bounded by the communities of Ranchos Penasquitos to the north and Mira Mesa to the south. The Mohnike Adobe resides within a 16-acre equestrian center. Original ancillary buildings and a structure include three sheds, a front portal barn, and one cistern.

The Mohnike Adobe is a one story, 2,512 sq. ft. house with a wrap around porch on the west and north elevations. The porch has a low shed roof supported by wood posts. Historically, the supports were wood framed square columns covered in thick lime plaster consistent with the Adobe exterior **Attachment A**. The house currently has a low-pitch pyramidal roof created when the original central open courtyard was roofed in order to expand the interior living room space. Two of four original chimneys still exist at the west end of the house. The house is square in form, with a rear (east) wing board and batten addition. The doors and windows are recessed into the adobe walls. The land immediately surrounding the house slopes in a southeastern uphill to a northwestern downhill direction.[3] The house is situated 165 ft. south of Los Penasquitos Creek. Mature trees surround the house along the southern, southeastern, and northern sides, while metal horse corrals added in 1996 align the northwestern side of the property. The Adobe is situated in a southwesterly orientation and maintains the historic panoramic views of the valley. The northwestern corner of the Adobe house is approximately 6 ft. above grade, and renders a portion of the foundation wall visible. The foundation consists of a non-mortared fieldstone footing and concrete stem wall.[4] Smooth cement and lime plasters cover the rendered Adobe exterior.[5]

A concrete walkway approaches six open case wooden plank stairs on the main (west) elevation **Photographs 1 & 2**. The stairs are centrally located along the base wall of the wrap around porch. There is a wood access gate at the most northern side of the wall **Photograph 3**. This gate provides access under the porch **Photographs 4-6.** The wall ranges in height from 6 ft. on the north side to 1 ft. on the south. The western base wall is smooth cement plaster over chicken wire and wood slats **Photographs 4 & 19.** The wood wrap around porch is 10 ft. in depth. The porch wraps around the entire length of the west and north facades. Non-decorative wood posts and ceiling joists support the roof. The porch railing is non-decorative with some missing balusters **Photograph 11**.

West Elevation
The west fenestration is symmetrical with a centralized main entrance. The main entry is a non-decorative five-panel wooden door inset into the adobe wall **Photographs 7-9**. One-over-one double hung windows with awning style wood screen frames flank the main entry door. On each side of the centralized entry is a one-over-one double hung window and a five-panel door combination **Photographs 7- 10**. The lintels and sills are plain and currently painted medium green.[6]

North Elevation

The north elevation wrap around porch extends the full length of the north side **Photographs 15 & 16**. The base wall is equal in height and is approximately 6 ft. from the northwest to the northeast corner **Photograph 15**. The fenestration is symmetrical with a centralized five-panel door flanked by one-over-one double hung windows. On each side of the central entry is a double hung window **Photograph 17**. The porch floorboards, where original columns existed are in poor condition **Photograph 16**. The footprints of the original columns indicate that stairs leading directly to the entryway were original to the porch design. However, currently there are no stairs directly accessing the north side of the Adobe.

East Elevation

As seen in **Photograph 20,** the east elevation is constructed on grade with a post-1950s shed roofed board and batten addition located on the southeast corner.[7] The addition is currently located where an original lean-to shed roofed patio existed[8] **Attachment B.** The northeast section of the house has moisture related deterioration and as shown in **Photographs 21 & 24** the plaster has eroded leaving exposed adobe bricks. As shown in **Photograph 23,** a contemporary concrete retaining wall has been placed along a portion of the deteriorating northeastern section to help prevent further foundation erosion.

A jalousie and plywood window replaces the original glass in the north double hung window casing **Photograph 22.** A temporary cover or an air-conditioning stand, covers exposed adobe bricks below the sill portion of the central window **Photograph 20, 21 & 23**. The board and batten rear addition has metal casement windows on the north and south elevations and a half-light wood door on its east façade **Photograph 25**. The addition, constructed ca. 1950s, has a contemporary concrete slab-on-grade foundation.

A set of concrete steps built into the hillside rocks lead to the southeast corner of the adobe **Photograph 26**. Although the date of the steps is unknown, it is believed to be a post 1950s addition and likely to have been constructed by rock layer, Refugin Rodriquez, **Photograph 27.** The southeast corner of the Mohnike Adobe is covered in board and batten siding. The board and batten walls are hollow and measure 18 inches in thickness.[9] Post 1950[10] board and batten siding is a modification made by the Russell Peavey family who resided at the residence from 1947 to 1968.[11]

South Elevation

Similar to the east elevation the south elevation is constructed on grade. There is a 12-pane metal sash casement window located at the southeastern section with a multi-glazed half-light Dutch door **Photographs 28 & 29**. Refugin Rodriquez, a rock layer, constructed a stone masonry wall during the 1950s.[12] A porch supported by non-decorative wood post rests on the stone masonry wall. This porch covers the south elevation entry, as shown in **Photographs 28 & 30**. There are two wood framed buttresses **Photographs 28, 32 & 35**. One buttress is centralized and is next to an original single paned casement window **Photograph 32**. The other buttress is located in the southwest section of the south elevation.

Description of Construction Method

The building is constructed out of mud mortared adobe brick with a face dimension of 8" x 3"[13], as shown in **Photograph 34**. The adobe wall thickness is 16 ½"[14] and is comprised of two vertical courses of adobe brick.[15] The adobe walls are rendered on the exterior, creating a smooth adobe surface for the application of lime and cement plasters.[16] A non-mortared fieldstone footing laid into a trench 7" to 8" in depth supports an unreinforced concrete stem wall 10" in height.[17] The unreinforced concrete stem wall is identified as having a low Portland cement content. The concrete mix consists of small stones and lime concrete slurry.[18] This concrete, as indicated by wooden board form markings, reveal that the slurry was directly poured over the fieldstone, oozed under the wood forms,[19] and troweled on the top to provide a flat

surface to lay the extant adobe bricks.

Two wood framed buttresses,[20] covered in thick white plaster support the south side adobe wall **Photograph 38**. A raised porch, approximately 10 ft. in depth, wraps around the main (west) and north sides of the building on-grade to 6 ft. above grade **Photograph 11**. The porch has a low shed roof that was originally supported by non-decorative massive square columns. The original supporting columns were wood framed square columns covered in a thick plaster consistent with the Adobe exterior. The intermediate column sizes were approximately 2 ½ sq. ft. while the supporting columns located at the corners and stairways were approximately 3 sq. ft. as indicated by the column footprints.[21] Currently, the wrap-around porch is painted white and is supported by 4" x 4" wooden posts every 10 ft.[22]

A portion of the east elevation exterior foundation has been repaired **Photograph 23**. Additionally, as indicated in the *Mohnike Adobe Historic Structures Report,* "poorly formed concrete footings illustrate a rework of the wall and foundation area"[23] **Photograph 21**.

Because the southeastern corner of the house is so close to grade there have been problems of surface water making contact with the adobe portions of the wall. A cobble-lined drainage swale was constructed on the uphill side and is believed to have been built circa the 1950s by Boy Scouts of America[24] **Photograph 57.** The swale redirects water around this problem area. The northwestern corner of the house, as shown in **Photographs 11 & 56,** is 4'-6" above grade.[25]

Contributing Outbuildings

To the southwest of the Adobe is an original two-story, vertical board front portal barn with a steep pitched gable roof **Photographs 41 & 42**. The barn was built circa 1910 and has undergone minor changes since its construction. In 1999, a lean-to addition on the west side of the barn was removed. The addition was placing a lateral load on the barn causing the wood framing to become approximately 3 inches out of plumb.[26] In 1999, interior bracing was implemented to stabilize the barn and return it to its vertical position.[27] The perimeter foundation of the barn is compacted earth and cobble with low cement content.[28] Overall, the barn is in good condition and maintains its original fabric. The vertical wood siding appears to be original; however, patches of various sizes and types of wood siding are on the east elevation.

Three supporting attached sheds north of the barn are also part of the original outbuildings **Photographs 43, 45 & 47.** The sheds were constructed circa 1910 and are one-story support buildings. The sheds have low-pitched corrugated metal gable roofs and are built out of horizontal boards with front gable vertical board portals **Photographs 44 & 46**.

Northeast (true north) of the Adobe is a cistern **Photograph 40**. The cistern was built circa 1910 below grade out of concrete. It is believed the cistern has continuously contained water, with the Los Penasquitos Creek as its source. Currently, it is covered with plywood and surrounded by a locked chain linked fence to prevent intruders **Photograph 39**. The overall condition of the cistern is good and it continues to maintain its original fabric.

Non-Contributing Outbuildings

Garage
Within the 16-acre Equestrian Center, approximately 6 ft. to the south and parallel to the adobe house is a non-contributing cinder block two-car garage built by the Peavey family post 1950 **Photographs 36-38.**
Swale
A circa 1950s cobble lined drainage swale on the uphill side of the property between the cistern and the Adobe is believed to have been constructed by the Boy Scouts of America.[29] **Photograph 57.**
Equestrian Structures
In 1972, the property was established as an equestrian center and since that time, additional horse corrals, tackle sheds, and equestrian rings were incorporated for the existing Rancho Penasquitos Equestrian Center established in 1996.[30] While the Mohnike property has a number of features related to its current use as an equestrian facility, almost all are unobtrusive, temporary, and use a minimum of structural materials. They do not detract from the integrity of the site.

There are three equestrian rings located on the property the largest is constructed out of wood posts, as shown in **Photograph 48.** The second largest is built of cinder block and PVC pipe, as shown in **Photograph 49,** and the third is a small circular metal ring located at the lower northwest portion of the property. There are also several metal and plywood horse corrals, all of which are temporary structures **Photograph 50.** There are 26 metal and plywood corrals on the northwest of the Adobe following the creek **Photographs 13, 14, 56, 58 & 64** and along the southwestern side of the property **Photograph 52 & 53.** There are three rows of tackle sheds approximately 6' x 6' on the north side of the property, as shown in **Photograph 54** next to the small metal equestrian ring.
Miscellaneous
There is one, 1996 semi-permanent building used as a lavatory for the equestrian clientele. It is constructed out of cinder block and is located approximately 15 ft. east of the contributing sheds **Photograph 57.** Above the lavatory are two small mobile trailers, and two small sheds used for additional storage **Photograph 55.** There are two small metal silos approximately 6 ft. in diameter. One silo is located approximately 5 ft. from the contributing barn and the other is approximately 200 ft. west of the Adobe **Photographs 41, 57 & 64.** Upon entering the equestrian facility, a ticket booth is located directly to the north, and the City of San Diego, Park and Recreation, Northern Division office trailers are at the lower southwest portion of equestrian center, as shown in **Photographs 61-63.**

Summary of Condition and Integrity

Overall, the Adobe retains a high degree of integrity in its design, setting, location, feeling, association, materials, and workmanship. The Adobe remains in its original location and its setting is similar to that of the period of significance with the exception of temporary equestrian facility equipment.[31] While urban encroachment has occurred with ridge top development in the adjacent communities of Rancho Penasquitos and Mira Mesa, the southwest view corridors from the Adobe have not been jeopardized. The Mohnike Adobe resides within the larger Los Penasquitos Canyon Preserve, where two nineteenth century

adobes (Ruiz-Alvarado and Johnson-Taylor Ranch House) maintain National Register designation. In addition, the land south of Black Mountain Road and along Los Penasquitos Creek is zoned as open space for sensitive biological habitat, thus, the land in this area will continue to provide unobstructed views, as illustrated in **Photographs 59 & 60,** and will contribute to the overall setting by assuring historic views from the Mohnike Adobe in perpetuity.

Despite the fact that the Adobe house has undergone alterations, the alterations are sensitive to the original design composition and character of the building. Almost all of the alterations have occurred during the 1950s[32] at the southeast corner of the house where board and batten repairs were made to quickly contain water deteriorated adobe walls.[33] These board and batten modifications include the replacement of a lean-to, with a more permanent board and batten rear wing, as shown in **Attachment B**, the inclusion of concrete steps, and a porch supported by a stone masonry wall. Additional alterations include covering the central open courtyard to expand the interior living room space,[34] the replacement of wood framed columns[35] with the present 4"x 4" posts,[36] the removal of the north elevation open case wood stairs,[37] and the removal of two chimneys[38] located in the eastern section of the house. Regardless of these alterations, the Adobe retains its historic character-defining feeling and association as a modern adobe ranch house. It retains its integrity of material and craftsmanship and continues to convey its historical residential use.

The relationship between the Adobe house and the outbuildings are maintained throughout the use of the property from a cattle ranch to an equestrian facility. As demonstrated in **Photographs 59, 60 & 62** all non-contributing structures, such as horse corrals, tackle sheds, and equestrian rings are minimal and temporary. They do not detract from the overall association, character and integrity of the Adobe or its historic use as a residence.[39]

Some of the lime and cement plaster on the Adobe is cracked **Photographs 7, 10, 18 & 35**; nonetheless, with the exception of the central portion of the east elevation **Photographs 20, 21 & 24,** the adobe bricks and concrete foundation remain in excellent condition. The east elevation and the roof have the most severe moisture related damage **Photographs 26 & 31 Roof**. However, preventative measures are currently being applied and a Master Plan for the Restoration of the Adobe has been provided to the City of San Diego for future implementation.[40]

Narrative Statement of Significance

Summary

The Mohnike Adobe is significant at the local level under National Register Criteria C and D in the area of architecture, specifically San Diego County adobe construction of the nineteenth and twentieth centuries. The Mohnike Adobe is a unique example of adobe construction that blends two well-known construction foundation techniques—rock foundations and concrete used in residential development between 1900 and 1914. When compared to other known adobe sites in San Diego County, the Mohnike Adobe exemplifies a unique blending of both non-mortared fieldstone and unreinforced concrete to "form an integral foundation for adobe residential construction."[41] Elevating the significance of the Adobe within the

architectural context, the Mohnike Adobe illustrates a transitional shift in the evolution of adobe construction systems within the county. In conjunction with this transition in adobe construction, the Mohnike is also likely to yield important information about the evolution of adobe construction systems, which will contribute and supplement currently available written documentation on adobe methods of construction[42] and adobe foundation classifications.[43]

Brief History of Rancho de Los Penasquitos

Prehistory

The Mohnike Adobe is one of three adobes within a larger geographical area presently known as the Los Penasquitos Canyon Preserve. Historically, the area is known as the first private rancho in San Diego County[44] – the *Rancho Santa Maria de Los Penasquitos.*[45] Prehistoric and historic occupation in Los Penasquitos dates back to 10,000 years. Archaeological evidence indicates that Native Americans, Spanish, Mexicans, and Anglos have occupied the area. Many prehistoric and historic archaeological sites are present within the canyon and valleys. The earliest pre-contact occupation of the area is attributed to the abundant natural resources. The ocean coast, vernal pools, and lagoons along with the riparian woodland habitat provided various food sources.[46] Native grasslands, coastal sage scrub, and maritime chaparral provided seeds, fruits, and grains.[47] The original people of this region are identified as part of a stable semi-sedentary hunter/gatherer network that extended from the Pacific Ocean to the Colorado River.[48] According to Sue Wade, archaeologist, "the geographical area of Los Penasquitos continues to provide important information about the lifeways of Native Californians and its recent settlers."

Spanish, Mexican and Early Anglo Periods 1769-1880[49]

Spanish presence in San Diego began with the arrival of Father Junipero Serra and Captain Gaspar de Portola in San Diego Bay.[50] The village at the western section of Los Penasquitos Canyon had continued contact with Spaniards beginning in 1769.[51] Nearby lands of Sorrento Valley became the principal common lands for crop cultivation by Spanish and Mexican settlers of the pueblo of San Diego.[52] On the eastern end of Los Penasquitos, San Diego Mission padres raised sheep, harvested vineyards and grew fruit trees.[53]

In 1822, Mexico gained its independence from Spain, and in 1823, a portion of what is now Los Penasquitos and originally part of mission lands, was divided and conveyed to Captain Francisco Maria Ruiz.[54] Ruiz was born in 1750 in Loreto, the capital of the peninsula of Lower California. Ruiz was commandant at the San Diego Presidio who retired from his position in 1827. In 1834, Mexican Governor Jose Maria Figueroa awarded the western section of Los Penasquitos Canyon to Captain Francisco Maria Ruiz, which combined the holdings to 8,486 acres.[55] This holding is what now conveys the historical boundaries[56] of *Rancho Santa Maria de Los Penasquitos,* also known as Rancho de Los Penasquitos.

March 15, 1837, Ruiz deeded the Rancho de Los Penasquitos to Francisco Maria Alvarado.[57] Alvarado was an active San Diego politician. He served as a councilman in 1837, Town Treasurer in 1840, and a

coroner in 1851.[58] It was not until 1876 that Rancho de Los Penasquitos became officially awarded to Francisco Maria Alvarado by the State of California. The official award honored the original Mexican land grant for two leagues of what is commonly known as the Rancho de Los Penasquitos.[59]

In the mid-1800s, Penasquitos Canyon was used as a major route to the east for military, cargo and passengers.[60] In 1853, at the first San Diego County Board of Supervisors meeting, the board designated the old wagon road, which follows Los Penasquitos Creek to Fort Yuma, Arizona as the first public highway in San Diego.[61] In circa 1854, the Overland Mail contract was established between San Antonio, Texas and San Diego, California. The actual stagecoach line went through Rancho de Los Penasquitos, north to San Pasqual, up to Ramona, Santa Ysabel and Warner's Ranch. The Los Penasquitos Road was the first Overland Mail Route, before the establishment of the Butterfield Stage Company.[62]

In 1857, Alvarado's son, Diego, gained title to the Rancho and in 1862, Diego's brother-in-law, George Alonzo Johnson, purchased the eastern portion of the property.[63] By 1872 a San Diego County map illustrates Los Penasquitos ranch house as that of Captain Johnson's.[64] Captain George Johnson was a Navigator that hired sailors to carry European settlers across the Colorado and Gila Rivers.[65]

Post-1880

By the 1880s, the San Diego real estate and development boom began. Jacob Shell Taylor purchased Los Penasquitos in circa 1882. Taylor who is also recognized for the development of the coastal community of Del Mar, California had grand design plans for the Rancho as a subdivision of 10-arce parcels. In 1886, the Town of Las Penasquitas was recorded in the San Diego County Recorders office. In 1890, the Las Penasquitas Light and Power Company (also noted as Las Penasquitas Land and Water Company)[66] was formed and took ownership of the canyon.[67] By 1903, real estate investor, Adolph Levi, purchased the property. Levi, an Austrian immigrant, was an active businessman with ties to the communities of Julian and Oak Grove, California. Although, records do not show Levi residing on the Rancho, records of chattel and crop mortgages for horses, hay, and grain suggest that Los Penasquitos was leased under Levi for agricultural uses.[68]

1910-1947

In 1910, Charles Frederick Mohnike purchased Rancho de Los Penasquitos,[69] a reported 9,380 acres[70] from Adolph Levi. According to a Patent filed at the San Diego County Clerk Recorders on March 23, 1910, Charles F. and Ruth A. Mohnike entered into an agreement with Adolph Levi for $100,000 on a three-year six percent mortgage.[71] The San Diego Sun newspaper dated March 12, 1910 reports:

> The ranch [Los Penasquitos] is one of the most famous in this part of the country. ...and is a valuable piece of property. Mr. Mohnike paid ...$150,000 for the big ranch and ... purchased $35,000 worth of stock. Mr. Mohnike will dispose of his property in Chula Vista and will make his home on the big ranch. He intends to construct several new dams, and will put in many thousand[s] [of] dollars in new improvements, with a view of sub-

> dividing the ranch for sale. Among the improvements will be a water system that will irrigate 2,000 acres, which will be devoted to agricultural produce. The new owner expects a small village to spring up on the property and a new agricultural center will thus be formed.

Charles Mohnike, originally from Nebraska, moved to Chula Vista, San Diego County, California along with his wife Ruth A. and their two eldest children around the turn of the 20th century. Mohnike became a prosperous citrus grower[72] and real estate dealer.[73] Through the first decade of the 20th century, the Mohnikes lived in a large Victorian home in Chula Vista, San Diego County, California where Otto and Sons of San Diego were commissioned to design a park on their property. The park contained rare trees, semi-tropical shrubs, shaded arbors, along with croquet and shuffleboard courts.[74] In the summers, Charles F. and Ruth A. Mohnike along with their nine children lived at Los Penasquitos Ranch House,[75] where they raised sheep, horses and Hereford cattle. Charles Mohnike introduced new agricultural technologies through the implementation of a combined harvester that was pulled by twenty horses in order to cut and bail grain.[76] Charles Mohnike recognized, as an innovator, was willing to incorporate the newest of technologies in his endeavors. As indicated in a San Diego Sun article dated March 13, 1910:

> ...his [Charles Mohnike] intention to immediately begin the installation of a complete water system, as it is planned to place 2060 acres of the land under cultivation this coming season. In order to devote his entire time and attention to his new venture, Mr. Mohnike has decided to dispose of all his Chula Vista holdings... The Los Penasquitos ranch is located about midway between Del Mar and Poway. It includes some exceedingly choice land and is considered one of the finest ranches in San Diego County.

Demonstrated through various transactions recorded at the San Diego County Clerk Recorders in 1911, Charles Mohnike appeared to have been disposing of his Chula Vista land holdings. After a fire at the Penasquitos Ranch House reported around 1910-1911,[77] Charles Mohnike designed a new modern adobe house (the Mohnike Adobe) for his family in the upper eastern portion of the Rancho. During this time, he incorporated non-mortared fieldstone footings and an unreinforced concrete stem wall as the foundation for his new adobe home, a concrete cistern, barn, and three sheds, while also rebuilding portions of the old Penasquitos Ranch House for his ranch hands.

While it is not known if Charles Mohnike installed a complete irrigation system for the 2,060 acres of land he was planning on cultivating as indicated in the San Diego Sun newspaper article, it is known, that Mohnike was unable to fully actualize his intentions of creating a new agricultural center. In 1913, a series of climatic changes destroyed the Mohnikes' citrus orchards. First with a countywide freeze in January of 1913 and then, a 110-degree heat wave in September 1913.[78] This disaster caused the Mohnike family to fall almost into bankruptcy and eventually caused the Mohnikes to lose the Rancho and move to the San Joaquin Valley[79] where the family continued in the agricultural industry.[80]

Rancho de Los Penasquitos property was then purchased and leased for agricultural purposes throughout the 1920s. The Mohnike Adobe, as well as, the Penasquitos Ranch House were used for living quarters by

ranch hands. Ranching continued on both the eastern and western portions of Los Penasquitos Canyon. By 1921, one of the largest cattle companies in the Southwestern United States began purchasing property in Southern California. By 1932, the ranch was purchased through a trustee's deed of foreclosure to Wirt G. and Magdelina Bowman, owners of Caliente Race Track in Tijuana[81] and George and Emily Sawday.[82] In 1937, the Bowmans deeded their interest to George and Emily Sawday, which again consolidated the western and eastern portions of Rancho de Los Penasquitos.[83]

George Sawday and business partner Oliver V. Sexson[84] formed the Sawday-Sexson Ranch for which cattle ranching became its primary business. They used large areas of the county including Rose Canyon to let their cattle roam and graze prior to market.[85] George Sawday was born in Witch Creek, California in 1876 and began running cattle on the family ranch.[86] He soon expanded his endeavors by leasing several of the San Diego County mountain ranches including Hoskins, San Felipe, and Warners. With partner Oliver Sexson, Sawday and Sexson, Inc. became part of the largest cattle ranching industry within California, Arizona, Utah, and Nevada.[87]

For forty years, Rancho de Los Penasquitos was part of the last era of cattle ranching in Southern California. Not only were the land connections of immense importance, the ranchers themselves formed social, family, and economic networks.[88] Ranch foremen lived on the individual ranches and managed the cattle activities. Russell Peavey was foreman of Rancho de Los Penasquitos under Sawday and Sexson. Russell Peavey and father, Newel Jacob Peavey, ranched and farmed in the Tia Juana[89] Valley since the turn of the 20th century.[90] In 1921, the family moved to Rose Canyon where they raised cattle and grew oats, barley and lima beans.[91] Newell Peavey and his son's purchased Rose and San Clemente Canyons, in San Diego County, creating the San Clemente Ranch, which is presently the community of Clairmont in the City of San Diego.[92]

1947 to Present

In 1947, Russell Peavey and his family moved to Rancho de Los Penasquitos as the ranch foreman for Sawday and Sexson, Incorporated.[93] The relationship between the families as with other ranchers was both social and business orientated. Many of the wives and daughters belonged to the Cow Belles,[94] an organization of cattlemen's wives and daughters that promoted beef and social activities for its members.[95] Mrs. Russell Peavey was one of the Cow Belles most active members during the 1950s.[96] The men combined their social lives and business through their membership in the San Diego Chapter of the California Cattlemen's Association.

After the deaths of George Sawday and Oliver Sexson in the late 1940s, the Peavey family sold the San Clemente Ranch and bought into the Sawday and Sexson Cattle Corporation, thus acquiring an interest with Mrs. Emily Sawday and son-in-law Orvill Cumming at Rancho de Los Penasquitos.[97] The Sawday family ranched the mountain lands while the Peavey family continued to ranch the coastal lands. It was during this period that the Mohnike Adobe went through its major alterations.[98] The central open courtyard was enclosed in order to expand the living room. Two of four fireplaces were removed, and bathrooms and a modern 1950s kitchen were added at the rear of the house (east elevation) replacing a lean-to and likely to update and create a contemporary living experience.[99]

By the late 1950s, anywhere from 2000-7000 cattle were on the ranch. Cattle roamed and grazed from Chicarita Creek on the eastern end of the ranch to Sorrento Valley on the west. Russell Peavey leased additional land for cattle grazing from the communities of Mira Mesa, Oceanside and Temecula. However, San Diego urban encroachment pressed the ranch and by the 1970s, the Peavey family moved to Nevada where they purchased ranch land.[100]

In 1962, the Sawday, Peavey, and Cumming interests in Rancho de Los Penasquitos were sold to Irving Kahn and held under Trust by Penasquitos, Incorporated.[101] Irving Kahn purchased a total of 14,000 acres of the Sawday and Sexson land holdings for more than $10 million dollars.[102] That same year Los Penasquitos Canyon was annexed into the City of San Diego.[103] In the late 1960s, major water and sewer lines were constructed through the canyon, which pass between the Mohnike Adobe and the bed of Los Penasquitos Creek.[104] In 1972, the ranch became home to Horseman's Park, a horse boarding training, and rental facility. In 1973, after the sudden death of Irving Kahn, trustees sold approximately 1,800 acres to developers.[105]

In 1980, Genstar Development acquired the property for close to $100 million dollars. As part of an agreement with the County and City of San Diego, Genstar Development agreed to leave the western portion of Los Penasquitos Canyon as an open space preserve.[106] Presently, the eastern portion of Rancho de Los Penasquitos, where the Mohnike Adobe is located, is owned by the City of San Diego and leased to Rancho Penasquitos Equestrian Center, a horse boarding and training facility. The western portion of Los Penasquitos Canyon is used as passive open space. The Penasquitos Ranch House, also known as the Johnson-Taylor Adobe, was restored to its circa 1850s appearance. The Ranch House[107] currently houses a County Park office and the museum and office of the San Diego County Archaeological Society. Today, the Mohnike Adobe is the only adobe ranch house within Los Penasquitos Canyon that retains its historical use as a residence.

Significance under Criterion C

Context: Architecture

Charles F. Mohnike is responsible for the construction of this twentieth century adobe built circa 1910. This Adobe is a unique example of adobe construction that blends two well-known construction foundation techniques--rock foundations and concrete used in residential development between 1900 and 1914.[108] The Mohnike is architecturally distinguishable from other San Diego County adobes for its method of construction.[109] When compared to other known adobe sites in San Diego County, the Mohnike Adobe exemplifies a unique blending of both non-mortared fieldstone and unreinforced concrete to "form an integral foundation for adobe residential construction."[110] Based on American Southwest adobe construction systems identified by Historic Architect, James W. Garrison, [111] the Mohnike Adobe construction system bridges that of the Victorian and Adobe Revival systems of the late nineteenth and twentieth centuries. [112]

The Victorian adobe construction system defined by Garrison developed from 1882 to 1914 and was

heavily influenced by Anglo building methods. The Victorian System named by Mr. Garrison for the era[113] is also referred to as an Anglicized-Mexican adobe. This classification of adobe construction is typified by its use of lime plaster covered adobe walls, stone foundations, raised wood framed flooring, large casement or double hung windows, 18 to 24 inch thick adobe walls, and a low to medium pitched roof covered in shake shingles.

In comparison, Mr. Garrison's defined Revival System (1915 to 1948) uses construction methods that resemble contemporary construction principles. Adobe stem walls are set on reinforced concrete foundations and the floor is a concrete slab-on-grade. Walls are adobe mud brick, ranging between 8 to 12 inches in thickness and are encased in Portland cement. Wood and steel-framed casement windows are used to create a contemporary building appearance. While the roof styles vary between pitched, hipped, shed, and flat, the roof traditionally rests upon a concrete beam on top of the adobe walls. This beam, known as a bond beam, provides structural stability.

The Mohnike Adobe, built circa 1910, uses an unreinforced concrete stem wall 10 inches in height that is supported by a non-mortared fieldstone footing 7 to 8 inches in depth. The unfinished adobe walls are 16 ½ inches thick and are covered in lime and cement plasters. Whereas the Mohnike Adobe has previously been identified as bridging the Victorian and Revival adobe types defined by James Garrison, its architectural features denote a clear transition of adobe construction prior to the known formal application of Adobe Revival systems in San Diego County.

The Mohnike Adobe is an exemplary example of adobe construction evolution and reflects a transition in adobe construction within San Diego County. The foundation used in the Mohnike is unique when compared to other San Diego County adobes from the nineteenth and twentieth centuries. San Diego County adobe foundations investigated and researched by archaeologist, Dr. Susan Hector, were identified as characteristically consisting of loose cobbles during the Spanish and Mexican Periods, adobe brick during the Early Anglo Period 1848-1880, stone masonry Post-1880, and reinforced concrete block and concrete-slab-on grade foundations during the early twentieth century. As indicated in adobe construction evolution, not only do foundations change throughout time using different indigenous and readily available materials, the overall building form changes and is typically identifiable through wall thickness, and window and door and treatments.

Mr. Donaldson suggests, in *The Mohnike Adobe Field Investigation of the Foundation* that the transitional shift in adobe construction reflected in the Mohnike Adobe is not attributable to technological advancement and the general social acceptance of concrete as a building material. The Mohnike Adobe exemplifies a unique combination of both non-mortared fieldstone and unreinforced concrete to "form an integral foundation for adobe residential construction in San Diego County when compared to other adobes in the area." This is particularly so when comparing the three Penasquitos Canyon adobes-- El Cuervo (Ruiz-Alvarado), Los Penasquitos Ranch House (Johnson-Taylor), and the Mohnike Adobe. El Cuervo, located in the western portion of Penasquitos Canyon, is believed to have a cobble foundation.[114] The Los Penasquitos Ranch House, as indicated through Dr. Hector's adobe foundation research and investigations consists of cobbles, mortared fieldstone, and concrete slab-on-grade. The concrete slab-on-grade is attributable to Charles F. Mohnike and was added circa 1911. During this same period, the

Mohnike Adobe was constructed in the eastern portion of the Penasquitos Canyon and, as recently discovered, has an unreinforced concrete stem wall 10 inches in height on top of a non-mortared fieldstone footing 7 inches to 8 inches in depth.

Despite the fact that the use of concrete for residential development circa 1910 was common, the use of both unreinforced concrete and non-mortared fieldstone footings to form the foundation of an adobe residential construction was uncommon. While the purpose of Mr. Mohnike's choice in selecting unreinforced concrete and non-mortared fieldstone for the foundation of the Adobe is unknown, it is known, as evidenced by its excellent state of preservation, that the house is well constructed even though it does not fully utilize the construction benefits commonly ascribed to concrete. Unlike mid-twentieth century adobes, the Mohnike Adobe retains rendered 16 ½ -inch thick adobe walls covered in lime and cement plasters. Mr. Mohnike constructed this adobe with an unreinforced concrete and non-mortared fieldstone foundation with 16 ½ inches adobe walls to withstand seismic movement, as well as, to retain its physical form and design composition throughout the years.

The Mohnike Adobe reflects a construction innovation set within local adobe construction conventions, thus, confirming its use of local indigenous materials and likewise elevating its significance within the evolution of San Diego County adobe construction systems. When compared to other known adobe sites in San Diego County the Mohnike Adobe is a unique and exemplary example of adobe residential construction for its use of both non-mortared fieldstone and unreinforced concrete to form its foundation.

Significance under Criterion D

The Mohnike Adobe is significant under Criterion D, as likely to yield important information about adobe construction systems within San Diego County. The study of the Mohnike will widely contribute and supplement currently available written information on the evolution of adobe construction systems[115] and adobe foundation classifications.[116]

While the development of this research design suggests inquiry into the applicability of various adobe classifications, and the innovations employed by Charles Mohnike, the research design also validates a need for comprehensive documentation of vernacular and earthen architecture. This study can provide the onset to future studies in vernacular and earthen architectural construction evolution within, as well as beyond, San Diego County, California.

Research Design

Background:

The most thorough and widely known written information on the evolution of adobe construction systems, as seen in **Attachment F,** is found in a technical study of American Southwest adobes published in 1990 by Historic Architect and current Arizona State Historic Preservation Officer, James W. Garrison. In response to Mr. Garrison's adobe construction evolution, Dr. Susan Hector, Archaeologist, identified four successive adobe foundation classes within San Diego County in 1993, **Attachment G**. Further written documentation on adobe foundation classifications and the evolution of adobe construction systems in California and the American Southwest have not been identified. As indicated in the previous paragraph, the need for further documentation of vernacular and earthen architecture is essential for a comprehensive understanding of the patterns and development of adobe construction.

1. *Exploration:*
   Do the physical design characteristics of the Mohnike Adobe demonstrate the applicability of Garrison's phases of adobe construction systems?

Data Requirements

Record Mohnike Adobe architectural features, compare and contrast the recorded architectural features with Garrison's Indigenous, Victorian, and Revival Systems and evaluate applicability of Garrison's systems to the Mohnike Adobe.

Expectations

Recordation of the Mohnike Adobe's architectural features critiqued against Garrison's adobe construction systems will determine that the Mohnike Adobe reflects a variation of the Victorian System.

2. *Exploration:*
Is Garrison's scheme consistently applicable to other adobes in San Diego County and California?

Data Requirements

Inventory, evaluate, and record physical characteristics, architectural features and adobe foundations of San Diego County adobes and samples of California adobe buildings from 1848 to 1948. Compare and contrast recorded features with Garrison's scheme to determine applicability.

Expectations

Evaluation of other San Diego County and California adobes between 1848 and 1948 will determine Garrison's scheme is consistently applicable.

3. *Exploration:*
Is the Mohnike Adobe an isolated variation of Garrison's defined Victorian System in California and the American Southwest?

Data Requirements

Inventory, evaluate, and record physical characteristics, architectural features and adobe foundations of California adobes and American Southwest adobes from 1848 to 1948. Compare and contrast recorded features against the Mohnike Adobe.

Expectations

The inventory and evaluation of other California and American Southwest adobes from 1848 to 1948 will demonstrate that early adobes using concrete foundations resemble that of the Mohnike. Therefore, the Mohnike Adobe will not be indicative of an isolated variation of Garrison's Victorian System.

4. *Exploration:*
Does the construction of the Mohnike Adobe and other site features attributable to Charles Mohnike; such as, an irrigation system, significantly contribute to the development of twentieth century ranches, ranch houses, adobe ranch houses, and other technological advancements in San Diego County, California and the American Southwest?

Data Requirements

Gather and review historical data on the development of site features attributable to Charles Mohnike. Identify crops cultivated by Mohnike. Excavate and record data found around the cistern, and crop locations identified in historical research. Determine if irrigation systems exist or existed. Record building materials and evaluate against other known resources within the county, California and the American Southwest. Determine if a correlation exists between Mr. Mohnike's development of the site and twentieth century ranches, ranch houses, adobe ranch houses, and other technological advancements.

Expectations

Exploration into site features attributable to Charles Mohnike is expected to reveal technological advancements in building materials and agricultural technology. It is expected that the significance of Mr. Mohnike as an innovator will elevate him to the level of significance beyond San Diego County. The development of twentieth century ranches, ranch houses, and adobe ranch houses are expected to illustrate innovations employed by Charles Mohnike.

5. *Exploration:*
Are Garrison's adobe construction systems and Dr. Susan Hector's adobe foundation classifications compatible? Do Garrison's phases affect the definition of Hector's adobe foundation classifications?

Data Requirements

"Excavate and record adobe wall foundations from a variety of chronological, functional and ethnic/social contexts." (Hector 1993). Record physical features and evaluate records to determine compatibility between construction systems and foundation classifications.

Expectations

Compatibility between Garrison's scheme and Hector's classifications is expected. Garrison's scheme will supplement Hector's foundation classifications by separating Hector's Post-1880 mortared fieldstone foundations and concrete slab-on-grade and block foundations into two different categories thus creating five successive adobe foundation classifications.

6. *Exploration:*
Are Dr. Hector's foundation classifications consistently applicable to adobes throughout California and the American Southwest?

Data Requirements

Examine and evaluate a statistical sample of California and American Southwest adobes from Spanish, Mexican, and Anglo periods. Record samples against Hector's foundation classifications; perform statistical tests to determine application consistency.

Expectations

Through the evaluation of a sample of California and American Southwest adobes, Hector's foundation classifications will be identified and determined consistently applicable.

7. *Exploration:*
What are the limitations of Garrison's scheme and Hector's foundation classifications?

Data Requirements

Evaluate each theory to determine inconsistencies and incompatibilities with known adobe methods of construction and foundations. Examine data gathered in this Research Design and determine deviations between one theory and the other. Assess and rank total deviations to determine significance of each limitation.

Expectation

The expected combined limitations of Garrison's scheme and Hector's classifications are recognized in the lack of professional acceptance between allied professions. While one theory may be limited in a particular manner the other theory is compensating for it. The limitation of Garrison's scheme is that it relies on the presence of the building, whereas, Hector's can be applied to adobe ruins. The limitation seen in Hector's classification is the lumping of mortared fieldstone and concrete foundations into one broad category. Overall, the limitations of both theories are yet to be determined.

8. *Exploration:*
Will the proposed information from the Mohnike Adobe affect the definition of adobe construction evolution within San Diego County?

Data Requirements

Inventory, evaluate, and record physical characteristics, architectural features and adobe foundations of the Mohnike Adobe and other adobes within San Diego County and California between 1848 to 1948. Compare and contrast recorded features with Garrison's scheme to determine applicability.

Expectations

While the definition of adobe construction evolution in San Diego County may not change immediately, the onset of new inquiries will set a precedent for future studies. Isolating and identifying the applicability or non-applicability of currently available information will prompt revisions in the current definition of adobe construction.

9. *Exploration:*
Do foundations reveal an adobe construction method?

Data Requirements

Examine foundation types through excavation and assess foundation forms. Determine if the forms identified influenced the designs and whether or not those designs required particular construction methods. Record data and evaluate information against known adobe foundations and construction methods.

Expectations

While it is understood that foundations are the basis of architectural form, it does not necessarily determine stylistic attributes. Form does however contribute significantly toward the development of a structure and does necessitate specific design requirements. With the examination of this question, it is hypothesized that foundations will reveal an adobe construction method.

10. *Exploration:*
Are adobe foundation classifications significant to the overall evolution of adobe construction systems?

Data Requirements

Compare foundation types to other architectural construction systems in American Vernacular, Mass Produced, and High Style Architecture. Evaluate and apply results to adobe foundation classifications and adobe construction systems.

Expectations

Assessment of American Vernacular, Mass Produced, and High Style Architecture and the treatment of foundations will establish criterion to base the significance of adobe foundations to the overall evolution of adobe construction systems. It is presumed that through the examination of this exploration question that adobe foundations will be determined significant to the overall evolution of adobe construction systems.

11. Exploration:

Can adobe foundation classifications be used consistently to distinguish chronology? Does knowing the type of adobe foundation and the adobe construction system permit accurate levels of chronological predictability? Is this predictability consistent throughout California?

Data Requirements

Examine historical information to determine local methods of construction. Compare the data to past studies and building trends. Isolate and evaluate data against known adobe dates of construction, foundations, and methods of construction in San Diego County. Perform statistical tests to determine if known dates correspond to currently available information identified within foundation classifications. Repeat statistical tests against both foundation classifications and adobe construction methods to determine chronological predictability. Repeat testing for a sample collected on other California adobes.

Expectations

Adobe foundations will be found consistently to distinguish chronology. Knowing the type of adobe foundation and construction system will permit a higher level of chronological predictability within the county and California.

12. Exploration:

How does currently available information on worldwide earthen architectural construction systems and foundation classifications apply to the Mohnike Adobe, California adobes, and American Southwest adobes?

Data Requirements

Examine worldwide earthen architectural construction systems and foundation classifications. Record architectural features and design characteristics. Evaluate identified features against the Mohnike Adobe, and samples of California and American Southwest adobes from Spanish, Mexican, Anglo and present periods in adobe architecture.

Expectations

Exploration will suggest worldwide earthen architectural construction systems apply to regional adobe architecture in
California and the American Southwest

Biographical References

Published Materials

Aller, Paul and Doris Aller. Build Your Own Adobe. Stanford: Stanford UP, 1948.

Garrison, James W. and Elizabeth Ruffner. Adobe: Practical and Technical Aspects of Adobe Conservation. Heritage
Foundation of Arizona. 1983.

---. "The Evolution of Adobe Construction Systems in the Southwest (USA) and Related Conservation Issues." 6th International Conference on the Conservation of Earthen Architecture Adobe 90 Preprints. Ed.
Kristen Grimstad. Los Angeles: Getty Conservation Institute, 1990. 53-56.

---. "Specifying Adobe in Restoration Work." Association for Preservation Technology Bulletin Vol. XXII No. 3 1990:
7-10.

---. "Adobe as A Superior Building Material." Watch. 1999.

Groben, Ellis W. Adobe Architecture: Its Design and Construction. Seattle: U.S. Department of Agriculture, Forest
Service, 1941.

Hannaford, Donald R. and Revel Edwards. Spanish Colonial or Adobe Architecture of California 1800-1850. New
York: Architectural Book Publishing Co., 1931.

Hector, Susan. "Issue E.4: Adobe Foundations" Research Issues in San Diego Archaeology. Ed. Don Laylander. San
Diego: San Diego County Archaeological Society, Updated 7/93.

---. "Mission Masonry at Rancho Guajome Adobe." Journal of San Diego History 45 (1999): 247-260.

Lewis, Myron and Albert H. Chandler. Popular Handbook for Cement and Concrete Users. New York: Norman W.
Henley Publishing Company, 1911.

Lewis, Oscar. Here Lived the Californians. New York: Rinehart & Company, Inc., 1957.

May, Cliff. A Sunset Book: Western Ranch Houses. Menlo Park: Lane Publishing Co., 1958.

McHenry, Paul Graham. Adobe and Rammed Earth Buildings. Tucson: University of Arizona Press, 1984.

U.S. Department of the Interior, National Parks Service. "Preservation of Historic Adobe Buildings" Preservation
Briefs 5. Ed. Lee H. Nelson. 1978.

Phillips, Steven J. Old House Dictionary An Illustrated Guide to American Domestic Architecture 1600 to 1940.
Washington D.C.: Preservation Press, 1994.

Pourade, Richard F. The History of San Diego The Glory Years. 4 vols. San Diego: Union Tribune Publishing
Company, 1960-64.

---. The Silver Dons. 4 vols. San Diego: Union Tribune Publishing Company, 1960-64.

Preiser, Wolfgang F. and Fred G. Sturm. Pueblo Style and Regional Architecture. Ed. Nicholas C. Markovich. New
York: Van Nostrand Reinhold, 1990.

Slaton, Amy E. Reinforced Concrete and the Modernization of American Building, 1900-1930. Baltimore: John Hopkins UP,
2001.

Stedman, Myrtle, and Wilfred Stedman. Adobe Architecture. Santa Fe: Sunstone Press, 1973.

Tolles, Leroy E., et al. Survey of Damage to Historic Adobe Buildings after the January 1994 Northridge Earthquake.
Los Angeles: Getty Conservation Institute, 1996.

Weinberg, Nathan Gerald. "Historic Preservation and Tradition in California: The Restoration of the Missions and the
Spanish-Colonial Revival." Diss. University of California, Davis, 1974.

Weitze, Karen J. California's Mission Revival. *California Architecture and Architects III,* Ed. David Gebhard. Los
Angeles: Hennessey & Ingalls. 1984.

Unpublished Materials

Buscarren, Steve, Lynne Christenson and Susan Hector. "Los Penasquitos Canyon History: The Rancho Period",
Penasquitos Archaeological Investigations. 2001. Book in process. On file with the authors.

Carrico, Richard. Cultural Resources Technical Report for Penasquitos Trunk Sewer Relief. Unpublished Report
Prepared for the City of San Diego, 1994. On file at the South Coastal Information Center.

Christenson, Lynne, ed. "Mary Ward's Notes." Stagecoach Road Los Penasquitos. 2001. Unpublished. On file with the
editor.

City of San Diego. Draft Environmental Impact Report for the Penasquitos Canyon Preserve Master Plan. Unpublished
Report Prepared for the City of San Diego, 1992. On file at the South Coastal Information Center.

---. Rancho Penasquitos Community Plan. 1993.

---. Mira Mesa Community Plan. 1992 as amended, 2001.

County of San Diego. Draft Program Environmental Impact Report for Los Penasquitos Ranch House Restoration and
East Canyon Development. Unpublished Report Prepared for the County of San Diego Department of Parks
and Recreation, 1984. On file at the South Coastal Information Center.

Donaldson, Wayne and Nicole J. Purvis. Mohnike Adobe: Field Investigation of the Foundation. April 13, 2002.

Garrison, James W. "Renderings for Adobe Walls." Draft Technical Brief. 1987: 1-5. Copy on file at the City of San
Diego, Long-Range Planning Department, Historic Resources Board Site File No. 419.

Hector, Susan. Test Excavations at Los Penasquitos Ranch House. Unpublished Report Prepared for the County of San
Diego, Department of Parks and Recreation, 1984. On file at the South Coastal Information Center.

Johnson, Paul. Mohnike Adobe Historic Structures Report. Unpublished Report Prepared for the City of San Diego,
Engineering and Capital Projects Department, Public Buildings and Parks Division, 1010 Second Avenue,
Eighth Floor, San Diego, California, 1999. On file at the South Coastal Information Center.

Schaefer, Jerry and Michael C. Elling. An Assessment of Cultural Resources in Los Penasquitos Canyon Reserve San
Diego California. Unpublished Report Prepared for County of San Diego Department of Parks and

Recreation,
1987. On file at the South Coastal Information Center.

Wade, Sue Cultural Resource Survey and Monitoring Results for Rancho Penasquitos Equestrian Center. Unpublished
report prepared for the City of San Diego. 1996. Original on file at the County of San Diego, Department of
Parks and Recreation, Office of County Historian. 3/2002.

---. . "Rancho de Los Penasquitos A History of the Upper Ranch: The Mohnikes, Sawday and Sexton, Inc., and
the Peaveys." Mohnike Adobe Historic Structures Report (July 1999): 60-77. On file with the author.

Archives

County of San Diego, Department of Parks and Recreation, Office of Historian. Binder (4) Los Penasquitos 3.2.2.7

---. Box 2 Sanford M2.2.22

---. Box 1 Mohnike Adobe, donated by Sue Wade March 2002.

---. Oral History. Heisig, Evangeline Mohnike 1902-1999. 4 May 1991.

---. San Diego County Newspaper Clippings. 1890 +

---. Photographic Archives. Rancho de Los Penasquitos

San Diego Historical Society. Oral Histories. Peavey, Newall Jacob 1878-1965. 16 February 1960.

---. Oral Histories. Sawday, Charles Clark 1884-1958. 11 January 1958.

---. Oral Histories. Sawday, Emily 1879-1969. 1960.

---. Photographic Archives. Adobes A-Z.

---. Photographic Archives. Cattle Ranches.

---. Photographic Archives. Geddes Collection Adobes.

---. Photographic Archives. Ranchos A-Z.

---. Photographic Archives. Sawday Family.

---. Photographic Archives. Union Title-Trust Topics 1946-1952. Vol. IV, No. 2 March-April, 1950. Image 9241.

---. Vertical Files. Adobes.

---. Vertical Files. Cattle, Cattle Ranches, and Cattlemen.

---. Vertical Files. Ranchos.

San Diego Public Library, California Room. City Directories. 1901, 1903-1911, 1913-1915.

---. Photographic Archives. Buildings.

---. Vertical Files. Adobes.

---. Vertical Files. Ranchos.

---. Vertical Files. Cattle, Cattle Ranching, and Cattlemen.

---. Vertical Files. Sawday, George.

---. Union Title-Trust Topics. Vol. IV, No. 2 March-April, 1950.

San Diego Public Library, Newspaper Room. San Diego Sun Multi-vol.

San Diego State University Library, Archives & Special Collections. Union Title Insurance and Trust Company
Magazine. Multi-vol.

---. Southern California Rancher Magazine. Multi-vol.

San Diego State University, Malcolm Love Library, San Diego Union. Multi-vol.

---. San Diego Tribune. Multi-vol.

---. San Diego Union Tribune. Multi-vol.

University of California at San Diego, Mandeville Special Collections. Louise Geddes Photographic Collection.

Interviews

Coons, Bruce. Save Our Heritage Organization. Informal Telephone Interview. 3 Jan. 2002.

Christenson, Lynne Dr. San Diego County Historian. Informal Telephone Interviews. Dec. 2001 and Jan. 2002.

---. Site Visit. February 14, 2002.

Donaldson, Milford Wayne. Milford Wayne Donaldson, FAIA. Site Visit. 10 April 2002 and 13 April 2002.

De Angelis, Jeannette. City of San Diego, Senior Park Ranger. Informal Interview. Dec. 2001 and Jan. 2002.

Garrison, James W. Arizona State Historic Preservation Officer. Informal Telephone Interview. 15 Dec. 2002 and 13
Jan. 2002.

---. Site Visit. February 14, 2002.

Hardy, Mary. Project Terra, Getty Conservation Institute. Informal Telephone Interview. 10 Dec. 2001

Johnson, Paul. Ferris, Johnson & Perkins Architects, Inc. Informal Telephone Interview. Oct. 2001 and Dec. 2001.

Wessel, David. Architectural Resources Group. Informal Telephone Interview. 2002.

Wittrock, David. Monterey State Historic Park. Informal Telephone Interview. 9 Jan. 2002.

Maps

San Diego Historical Society. Map. "Plat of the Rancho de Los Penasquitos." Survey under the U.S. Surveyor. 1867.

South Coastal Information Center Map. "1887 Official Map of the Western Portion of San Diego County, California."
Survey under Surveyor M.C. Wheeler Co.

---. 7.5 Minute Series Topographical Map Del Mar Quadrangle. California: San Diego, County, 1967. Photorevised 1975.

---. 7.5 Minute Series Topographical Map Poway Quadrangle. California: San Diego, County, 1967. Photorevised 1975.

San Diego County, Department of Parks and Recreation, Office of Historian, Aerial Photograph, 1928,

1966.

San Diego County Recorder. Los Penasquitos Tract 1 Annexation Map 10469-D New Series 8661 Filed 6-14-62.

---. Los Penasquitos Tract 3 Annexation Map 11219-D New Series 8975 Filed 3-6-1964.

Preservation Registries/Inventories

California Department of Parks and Recreation, Primary Record CA-SDI-8124/H, Mohnike Ranch. 1995.

City of San Diego. Historic Site Board File No. 419. "Mohnike Adobe." 2000.

---. Historic Site Board File No. 75. "Johnson-Taylor Adobe of Rancho Penasquitos."1972.

Historic American Building Survey. CA-2072 "Johnson-Taylor Adobe."1975.

National Register of Historic Places Nominations. "Johnson-Taylor Ranch Headquarters." Los Penasquitos. 1980.

---. "Alvarado-Ruiz Ranch." Los Penasquitos. 1981.

San Diego County Department of Transportation. Archaeological Site Survey Record. Tentative Site No. CE 299.
"Penasquitos Park." 1979.

Works Progress Administration. Survey of Orange County Adobes. 1933. (Drawings at the City of San Juan
Capistrano, Map Room. Historical Description and Assessment held at San Juan Capistrano Historical
Society.)

Miscellaneous

City of San Diego, Real Estate Assets Department. Civic Center Plaza, Vertical File H 504-1. 2002

Pierce, Margie. "Canyonside Park Offers Plenty of Amenities." San Diego Union Tribune 1 September 2001: 13.

San Diego County Tax Assessor. General Data. Vertical File APN 760-147-05.

---. Building Records. Vertical File APN 760-147-05. No Record Found. 2002

San Diego County - Index to Federal Land Records California Land Patents Database. c/o National Archives.

Getty Conservation Institute. Summary Report Project Terra Research Meeting. 14 May 2000. Torquay, England.

Additional UTMS

2. Zone 11 Easting: 488620 Northing: 3644580
3. Zone 11 Easting: 488630 Northing: 3644500
4. Zone 11 Easting: 488130 Northing: 3844360

Verbal Boundary Description

The Mohnike Adobe is located at 12115 Black Mountain Road in the Rancho Penasquitos Community Planning Area in the City of San Diego, San Diego County, California. San Diego County Assessors Parcel Number 760-147-05. Boundaries are recorded in the San Diego County Clerk Recorders in Book 2, Page 385 of Patents, and a portion of Lot 160 of Mercy Mira Mesa Unit No. 2, Map 12035.

Boundary Justification

The Mohnike Adobe is located within the original eastern portion of the historic Rancho de Los Penasquitos. This parcel, and the adjacent, already NR listed Penasquitos parcel, are all that remains of the historic property.

Photographs

Historic Photograph

Photographer- Unknown

Date Photographed – Circa March-April 1950

Negative Location- San Diego Historical Society Photograph Collection, P.O. Box 81825, San Diego, CA 92138. Telephone: (619) 232-6203

Photograph No.	Photograph Description & View	Reference No.
1.	¾ View of South and West Elevation, Facing True Magnetic North	9241-Ranches

2002 Photographs

Photographer- Wendy L. Tinsley

Date Photographed- January 10, 2002

Negative Location- City of San Diego, Long-Range Planning Department, Historic Resources Board, File No. 419, 202 C Street MS-4A, San Diego, California 92101

Photograph No.	Photograph Description & View	Reference No.
1.	West Elevation, View East	R1-02
2.	West Elevation Detail of Porch and Entry Steps, View East/Southeast	R2-08
3.	West Elevation Porch Base Wall Access Gate, View East/Northeast	R2-09
4.	West Elevation Porch Base Wall Access Gate Detail, View East/Northeast	R3-29
5.	Under North Elevation Porch Area Detail, View East	R3-28

6. Under Porch Interior Detail Northwest Corner, View East/Southeast R3-27

7. West Elevation Porch Detail, View Northeast R1-15

8. West Elevation Porch Detail, View South/Southeast R1-14

Photographer- Wendy L. Tinsley

Date Photographed- January 10, 2002

Negative Location- City of San Diego, Long-Range Planning Department, Historic Resources Board, File No. 419, 202 C Street MS-4A, San Diego, California 92101

Photograph No.	Photograph Description & View	Reference No.
9.	West Elevation Porch Detail, Northernmost Door and Empty Screen Frame R2-11	
10.	West Elevation Porch Detail, Northernmost Window R2-13	
11.	3/4 View of West and North Elevations, Facing South/Southeast R1-02	
12.	West Elevation Northwest Corner Ceiling Joist, View East/Southeast R2-15	
13.	View West from Northwest Corner of Wraparound Porch R2-25	
14.	View Northwest from Northwest Corner of Wraparound Porch R2-24	
15.	North Elevation, View Southeast R1-03	
16.	North Elevation Porch Detail, View East R2-16	
17.	North Elevation Porch Detail, Windows and Door, View East R2-18	
18.	North Elevation Window Detail, Westernmost Window R2-17	
19.	North Elevation Porch Base Wall, Exposed Building Materials, Wood & Lath R2-30	
20.	East Elevation, View West R1-06	
21.	Northern Portion of East Elevation, View South R1-04	

22. East Elevation Detail, Northernmost Jalousie Window R3-01

23. North Elevation of Addition, View South R1-05

24. East Elevation Detail, Exposed Adobe Bricks R2-37

25. East Elevation Detail, View South/Southwest R3-08

26. Southeast Corner, View Northwest R1-07

Photographer- Wendy L. Tinsley

Date Photographed- January 10, 2002

Negative Location- City of San Diego, Long-Range Planning Department, Historic Resources Board, File No. 419, 202 C Street MS-4A, San Diego, California 92101

Photograph No.	**Photograph Description & View**	**Reference No.**

27. Southeast Corner Concrete Steps R3-14

28. South Elevation, View West R1-08

29. South Elevation Detail, Dutch Door and Metal Casement Windows R3-17

30. South Elevation Detail, Masonry Wall and Wood Porch Supports R3-16

31. South Elevation, View North R1-09

32. South Elevation Detail, Casement Window and Buttress, View North R3-19

33. South Elevation Casement Window Hardware Detail R3-20

34. South Elevation Detail, Exposed Adobe Bricks and Concrete Foundation R3-22

35. South Elevation Detail, Double-Hung Window with Awning Screen and Buttress R3-23

36. Garage West Elevation, View East R1-12

37. Garage South Elevation, View Northwest R1-11

38. Corridor between Garage and Adobe, View East R1-13

39. Fenced Cistern with Creek in Background Located North of Adobe R3-31

40. Cistern Detail R3-32

41. Barn 3/4 View, North and West Elevations, Facing East/Southeast R4-28

42. Barn 3/4 View, South and West Elevations, Facing North/Northeast R4-29

43. North Shed 3/4 View, North and West Elevations, Facing South/Southeast R4-24

44. North Shed 3/4 View, East and South Elevations, Facing North/Northwest R4-22

Photographer- Wendy L. Tinsley

Date Photographed- January 10, 2002

Negative Location- City of San Diego, Long-Range Planning Department, Historic Resources Board, File No. 419, 202 C Street MS-4A, San Diego, California 92101

Photograph No.	Photograph Description & View	Reference No.
45.	South Shed East Elevation, View West R4-21	
46.	South Shed West Elevation, View East R4-26	
47.	View South of Contributing Barn and Sheds R4-25	
48.	Wood Equestrian Ring, View South R4-32	
49.	PVC and Cinder Block Equestrian Ring R4-34	
50.	Corral Detail R4-16	
51.	Lavatory West and South Elevations, View North/Northeast R4-24	
52.	Stables, West Elevation, View North/Northwest R4-17	
53.	Corrals On Southern Portion of Property, View South/Southeast R4-13	

54. Tackle Sheds Located Directly North of Entrance Road, View North R4-31

55. Trailers and Storage Sheds Located Directly West of Horse Stables R4-18

56. 3/4 View of Adobe, Facing Southeast from Los Penasquitos Creek Bank R4-10

57. Swale, East of Adobe, facing Southeast R3-13

58. Northwest View from Southeast Corner of Property R4-01

59. West/Northwest View of Entrance Road from Southeast R4-02

60. Southwest view of Barn and Corrals, from Southeast R4-03

61. Ranger Station Trailers and Barn, View Southeast from Entrance R4-35

Photographer- Wendy L. Tinsley

Date Photographed- January 10, 2002

Negative Location- City of San Diego, Long-Range Planning Department, Historic Resources Board, File No. 419, 202 C Street MS-4A, San Diego, California 92101

Photograph No.	Photograph Description & View	Reference N

62. View East from Entrance Road R4-36

63. View Northeast from Entrance Road R4-37

64. View East From Entrance Road Depicting Adobe, Garage, Silo and Corrals R4-15

Attachments

Attachment A Photocopy 1932 West Elevation facing southeast. 1930s Louis Geddes Collection, UCSD Mandeville Special Collections. Negative Number CN4/M129/6.

Attachment B Photocopy of Historic Photograph of rear (east) lean-to ca. 1930s Louis Geddes Collection, UCSD Mandeville Special Collections. Negative Number CN4/M129/5.

Attachment C Photocopy of *Title-Trust Topics* Vol. IV No. 2 March-April 1950.

Attachment D Photocopy of Existing West and North Elevations prepared for Mohnike Adobe Historic Structure Report. Unpublished. 1999. 12.

Attachment E Photocopy of Existing East and South Elevations prepared for Mohnike Adobe Historic Structure Report. Unpublished. 1999. 11.

Attachment F Garrison, James W. "The Evolution of Adobe Construction Systems in the Southwest (USA) and Related Conservation Issues." 6th International Conference on the Conservation of Earthen Architecture Adobe 90 Preprints. Ed. Kristen Grimstad. Los Angeles: Getty Conservation Institute, 1990. 53-56.

Attachment G Hector, Susan. "Issue E.4: Adobe Foundations" Research Issues in San Diego Archaeology. Ed. Don Laylander. San Diego: San Diego County Archaeological Society, Updated 7/93.

Endnotes

[1] Commonly known as Rancho Los Penasquitos and Los Penasquitos.
[2] Qtd. in Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. See Pourade, Richard F. The Silver Dons. Union-Tribune Publishing Company. San Diego. Vol. 3 1963.
[3] Johnson, Paul. Mohnike Adobe Historic Structure Report. Unpublished. 1999. 3.
[4] Donaldson, Wayne. Mohnike Adobe Field Investigation of the Foundation, April 13, 2002.
[5] James Garrison, Site Visit February 14, 2002.
[6] Paint Samples, provided by Paul Johnson in the Mohnike Historic Structures Report indicate layer 1. As medium green (current), 2. Dark green, 3. White, and 4. Putty (gray-brown). 16.
[7] Building Records for the Mohnike Adobe have not been located as of January 13, 2002.
[8] Johnson, Paul. Mohnike Adobe Historic Structure Report. Unpublished. 1999. 3.
[9] Fink, Gary and Harry Price et al. "Archaeological Site Survey Record, San Diego County Department of Transportation, Community Services Agency". November 6, 1979.
[10] As indicated by the Mohnike Adobe Photograph taken for the Union Title Insurance and Trust Company Magazine *Title-Trust Topics* Volume IV No. 2, Mar-Apr. 1950.
[11] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 72, 74.
[12] Communication from Marty Peavey Simms August 15, 1998 to Sue Wade, Cultural Resource Management. First name of rock layer appears to be Refugin.
[13] Johnson, Paul. Mohnike Adobe Historic Structure Report. Unpublished. 1999. 9.
[14] Donaldson, Wayne. Mohnike Adobe Field Investigation of the Foundation, April 13, 2002.Width measured on North elevation under the wrap-around porch by Brian Canfield.
[15] Johnson, Paul. Mohnike Adobe Historic Structure Report. Unpublished. 1999. 9.
[16] Verbal discussion between Wayne Donaldson and Nicole Purvis during the field investigation on April 13, 2002.
[17] Donaldson, Wayne. Mohnike Adobe Field Investigation of the Foundation. Unpublished. 2002. 1.
[18] Ibid. 1.
[19] "Thin fins" of 1" to 2" protrusion, ½" thick, is the result of the concrete oozing under the board forms.
[20] Ibid. 16.
[21] Ibid. 10.
[22] Ibid. 3.
[23] Ibid. 9.
[24] Johnson, Paul. Ferris, Johnson & Perkins Architects, Inc. Informal Telephone Interview. Oct. 2001 and Dec. 2001.
[25] Johnson, Paul. Mohnike Adobe Historic Structure Report. Unpublished. 1999. 3.
[26] Ibid 13.
[27] Ibid.
[28] Ibid.
[29] Unconfirmed report that the Boy Scouts of America constructed the cobble lined swale in the 1950s.
[30] Wade, Sue. Cultural Resource Survey and Monitoring Results for Rancho Penasquitos Equestrian Center, San Diego, California. 1996. Figure 5.

[31] See Wade, Sue Cultural Resource Survey and Monitoring Results for Rancho Penasquitos Equestrian Center for discussion of equestrian facility equipment and integrity of the Mohnike Adobe.
[32] Although, the building records cannot be located, a photograph from the *Union Title Insurance and Trust Company* Magazine dated March-April 1950 illustrates the Mohnike Adobe as a "modern ranch house" **Attachment C**. In, **Historic Photograph 1**, the southeast corner of the Adobe is original, and the current south elevation porch and garage do not exist. The central area of the roof also does not appear to be covered. In this same photograph, the square porch columns have been replaced with the present 4" x 4" porch posts.
[33] Likely, after a noted flood in 1956 communicated to Sue Wade by Marty Peavey Simms in March 1998.
[34] According to Historic Architect, Paul Johnson, the original roof framing remains in tact. The original roof is identified and photographed in the *Mohnike Adobe Historic Structures Report* prepared for the City of San Diego, Long-Range Planning Department, Historic Preservation Program in 1999.
[35] Existent column footprints along with historic photographs, **Attachment A,** provide the dimensions and style of the original columns.
[36] Removed sometime between 1932 and 1950, based on Geddes Photograph and *Union Title Insurance and Trust Company Magazine* March-April 1950.
[37] Original stairs accessing the north side of the wrap around porch are also visibly identifiable by the existent 3 sq. ft column footprints.
[38] The location of the original fireplaces are identified and photographed from the sub-floor in *Mohnike Adobe Historic Structures Report*. Pg. 14.
[39] The Mohnike Adobe continues to be used as a residence for the equestrian center caretakers Susan Brunell and Brian La Roche
[40] Refer to Johnson, Paul. Mohnike Adobe Historic Structures Report. Unpublished. 1999. 26-32.
[41] Donaldson, Wayne. Mohnike Adobe Field Investigation of the Foundation, April 13, 2002.
[42] Garrison, James W. "The Evolution of Adobe Construction Systems in the Southwest (USA) and Related Conservation Issues." 6th International Conference on the Conservation of Earthen Architecture Adobe 90 Preprints. Ed. Kristen Grimstad. Los Angeles: Getty Conservation Institute, 1990. 53-56.
[43] Hector, Susan. "Issue E.4: Adobe Foundations." Research Issues in San Diego Archaeology. Ed. Don Laylander. San Diego: San Diego County Archaeological Society, 1992 Updated July 1993. Issue E.4.
[44] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: The Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 65.
[45] San Diego Public Library, California Room. Vertical File Ranchos. San Diego Union Tribune. June 22, 1934.
[46] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 63.
[47] Ibid. 63.
[48] Ibid. 63
[49] Dates established by the original San Diego Pueblo.
[50] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 63.
[51] Christenson, Lynne. "Los Penasquitos Canyon History: The Rancho Period," Penasquitos Archaeological Investigations. Unpublished. 2001. Historic Overview 1.

[52] Refer to Old Town historic files, and community plan for a detailed discussion. 1.
[53] Ibid. 2
[54] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 64.
[55] Christenson, Lynne. "Los Penasquitos Canyon History: The Rancho Period," Penasquitos Archaeological Investigations. Unpublished. 2001. Historic Overview 3.
[56] Ibid. 3.
[57] Ibid. 3.
[58] Ibid. 3.
[59] Ibid. 3.
[60] Christenson, Lynne, ed. "Mary Ward's Notes." Stagecoach Road Los Penasquitos. Unpublished. October 2001. 1.
[61] Ibid. 3.
[62] Ibid. 4.
[63] Christenson, Lynne. "Los Penasquitos Canyon History: The Rancho Period," Penasquitos Archaeological Investigations. Unpublished. 2001. Historic Overview 5.
[64] 1887 Official Map of the Western Portion of San Diego County, California. Survey under Surveyor M.C. Wheeler Co.
[65] Christenson, Lynne, ed. "Mary Ward's Notes." Stagecoach Road Los Penasquitos. Unpublished. October 2001. 5.
[66] Grant Deed Book 70 Page 334 12/14/1891. San Diego County Recorder.
[67] Christenson, Lynne, ed. "Mary Ward's Notes." Stagecoach Road Los Penasquitos. Unpublished. October 2001. 7.
[68] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 65-66.
[69] Grant Deed March 23, 1910. Deed Book 490 Page 63-65. San Diego County Clerk Recorders.
[70] San Diego Sun, March 12, 1910 and March 13, 1910.
[71] Book of Patents 152, Page 312.
[72] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 65-66.
[73] Advertisement, San Diego Union Morning Addition. March 1, 1910. And Indicated in several Grant Deeds recorded at the San Diego County Recorders during 1907-1910.
[74] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 66. From "With Dignity and Respect and Reverence for Age." 1994. 28-29.
[75] National Register of Historic Places. "Johnson-Taylor Ranch."
[76] Qtd. in Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 66-67.
[77] Qtd. in Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 67-68. Original source of information is from a transcribed oral interview with Evangeline Mohnike Heisig in 1991, on file at San Diego County, Department of Parks and Recreation, Office of County Historian, Dr. Lynne Christenson.

[78] Christenson, Lynne. "Los Penasquitos Canyon History: The Rancho Period," Penasquitos Archaeological Investigations. Unpublished. 2001. Historic Overview 8.
[79] Evangeline Mohnike Heisig's 1991 oral interview transcript states the Mohnike family moved to Los Angeles, California.
[80] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 70.
[81] Historically spelled Tia Juana.
[82] San Diego Public Library, California Room. Vertical File. Sawday, George.
[83] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 71.
[84] Also noted as Sexton, and Sexon.
[85] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 71-72.
[86] San Diego Historical Society. Oral Histories. Sawday, Charles Clark 1884-1958. 11 January 1958.
[87] San Diego Historical Society. Sawday and Sexson, Inc. Cattle Empire.
[88] See the History of the California Cattlemen's Association.
[89] Now known as Tiajuana River Valley
[90] San Diego Historical Society. Oral Histories. Peavey, Newall Jacob 1878-1965. 16 February 1960.
[91] Ibid.
[92] Ibid.
[93] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 72-73.
[94] The Cow Belles is an organization similar to those of women related members of Fraternal Orders.
[95] See History of the California Cattlemen's Association
[96] Ibid.
[97] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 72.
[98] Ibid. 73.
[99] Ibid. 73.
[100] Wade, Sue. "Rancho Los Penasquitos A History of the Upper Ranch: the Mohnikes, Sawday and Sexton, Inc., and the Peaveys." Mohnike Adobe Historic Structures Report. 1999. 74.
[101] City of San Diego, Historic Site Board File No. 419.
[102] Christenson, Lynne. "Los Penasquitos Canyon History: The Rancho Period," Penasquitos Archaeological Investigations. Unpublished. 2001. Historic Overview 9.
[103] San Diego County Recorder. Los Penasquitos Tract 1 Annexation Map 10469-D New Series 8661 Filed 6-14-62.
[104] California Department of Parks and Recreation, Primary Record CA-SDI-8124/H, Mohnike Ranch. 1995.
[105] Unconfirmed reports indicate that Irving Kahn donated the Los Penasquitos Canyon land to the City of San Diego prior to his sudden death in 1973.
[106] Christenson, Lynne. "Los Penasquitos Canyon History: The Rancho Period," Penasquitos Archaeological Investigations. Unpublished. 2001. Historic Overview 9.

[107] Also known as the Johnson-Taylor Ranch House.
[108] Donaldson, Wayne. Mohnike Adobe Field Investigation of the Foundation. Unpublished. 2002. 2-3.
[109] No record of period Adobe's using the same construction method are identified. Archives, photographic archives, archeological reports, historical files, and interviews with local Adobe experts were investigated. See bibliography detail of investigated resources.
[110] Donaldson, Wayne. Mohnike Adobe Field Investigation of the Foundation. Unpublished. 2002. 2-3.
[111] James W. Garrison, is a Historical Architect and a leading authority on Adobe construction methods. James W. Garrison, current Arizona State Historic Preservation Officer, established the adobe construction methods diagram that is referenced throughout this nomination, and presented it to the 6th International Conference on the Conservation of Earthen Architecture held in Las Cruces, New Mexico, October 14-19, 1990. The conference was sponsored by Project Terra of the Getty Conservation Institute, under the aegis of US/ICOMOS.
[112] See Attachment G.
[113] Garrison, James W. Arizona State Historic Preservation Officer. Informal Telephone Interview. 13 Jan. 2002.
[114] Archaeologist, Dr. Lynne Christenson, San Diego County Park and Recreation Historian, and Archaeologist, Dr. Susan Hector believe the foundation consists of cobbles. However, further investigation through excavation is recommended.
[115] Garrison, James W. "The Evolution of Adobe Construction Systems in the Southwest (USA) and Related Conservation Issues." 6th International Conference on the Conservation of Earthen Architecture Adobe 90 Preprints. Ed. Kristen Grimstad. Los Angeles: Getty Conservation Institute, 1990. 53-56.
[116] Hector, Susan. "Issue E.4: Adobe Foundations." Research Issues in San Diego Archaeology. Ed. Don Laylander. San Diego: San Diego County Archaeological Society, 1992 Updated July 1993. Issue E.4.

Attachment A

Mohnike Adobe, San Diego, San Diego County, California
Main and North Elevations, Historic Photograph circa 1910,
facing southeast

Attachment B

essee has removed and new address is known, notify
er on FORM 3547, postage for which is guaranteed.
FORWARDING POSTAGE GUARANTEED

Union Title Insurance and Trust Company

SECOND AVENUE at BROADWAY

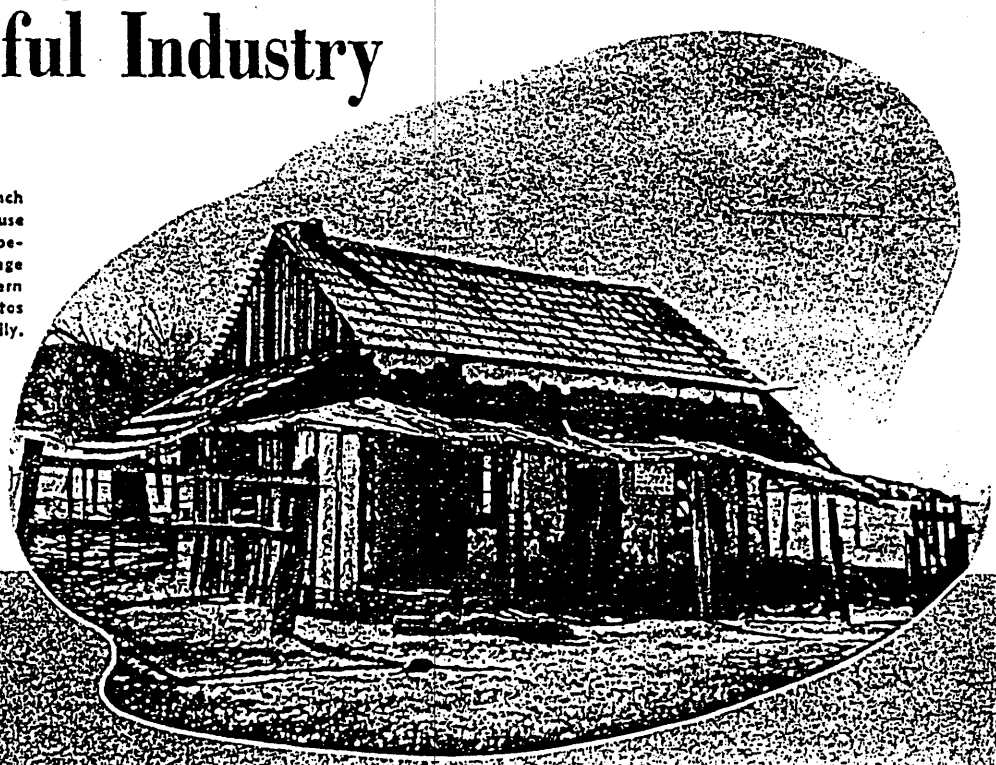
Jason D. Forward, President

Ninth Avenue & E Street
San Diego 1, California

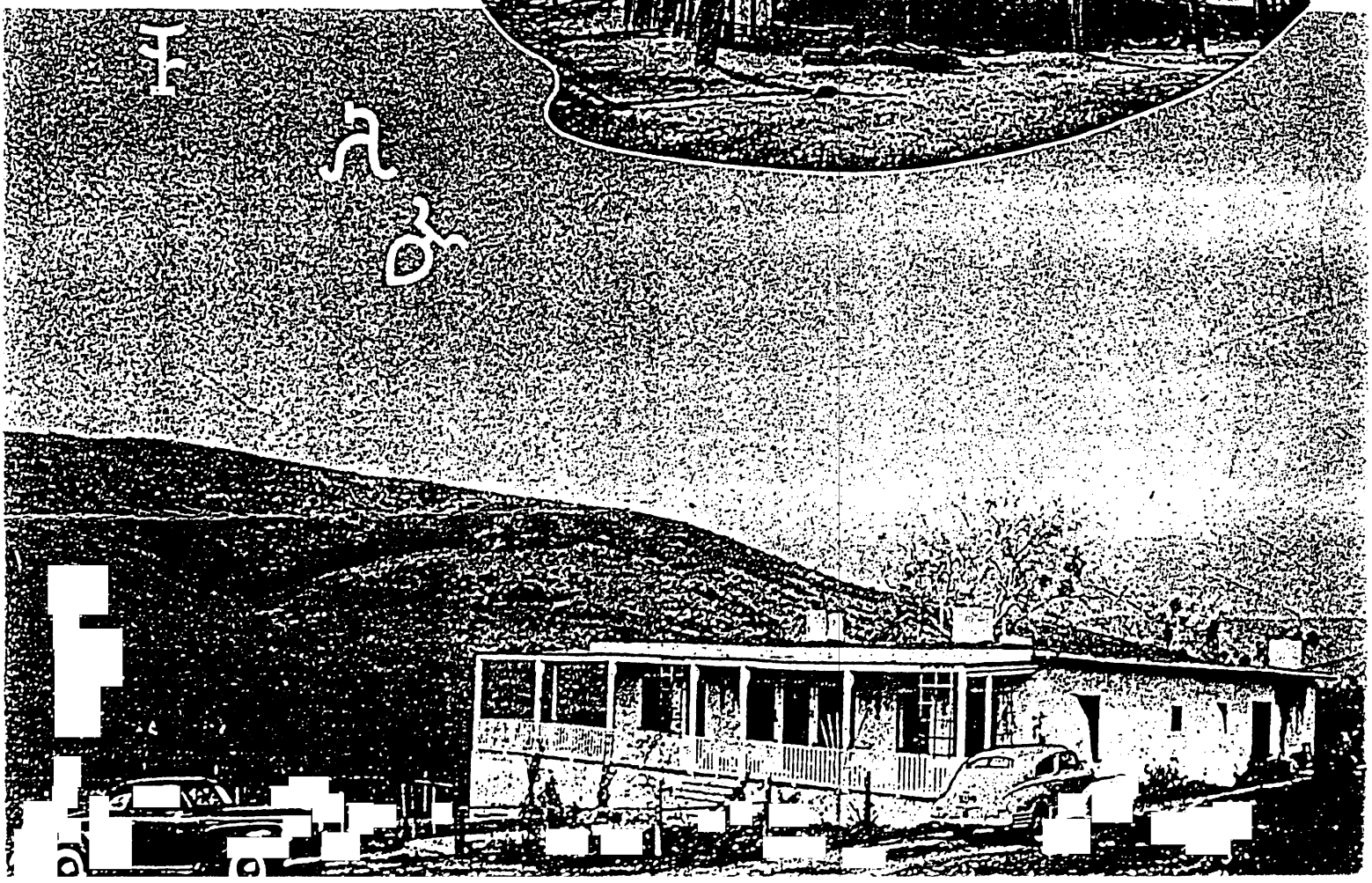
Sec. 34.66 P. L. & R.
U. S. POSTAGE
Paid
San Diego, Cal.
Permit No. 450

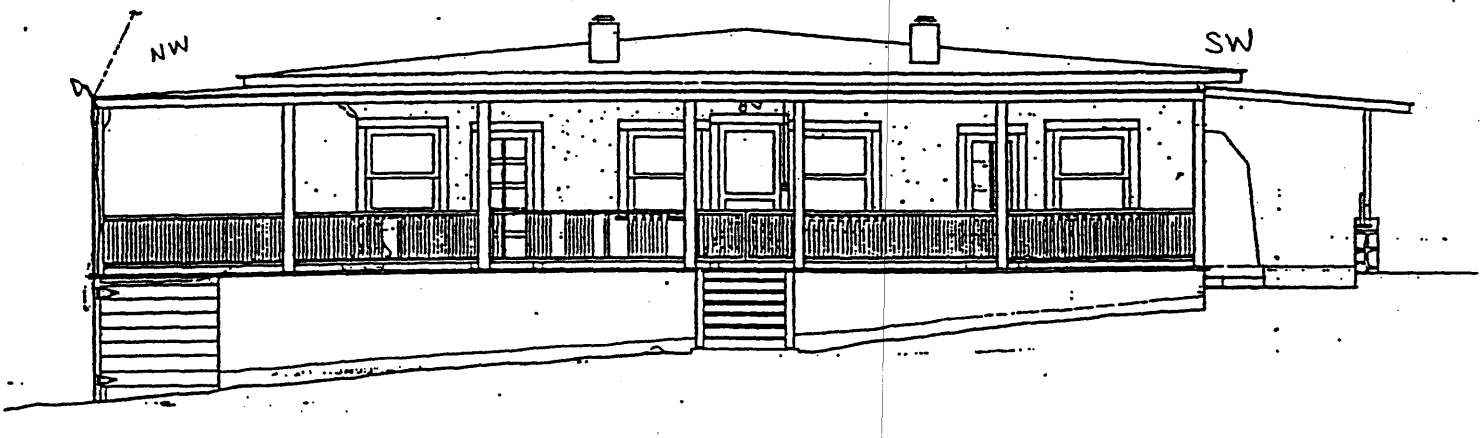
Attachment C

Cattle Raising... San Diego County's Oldest and Most Colorful Industry

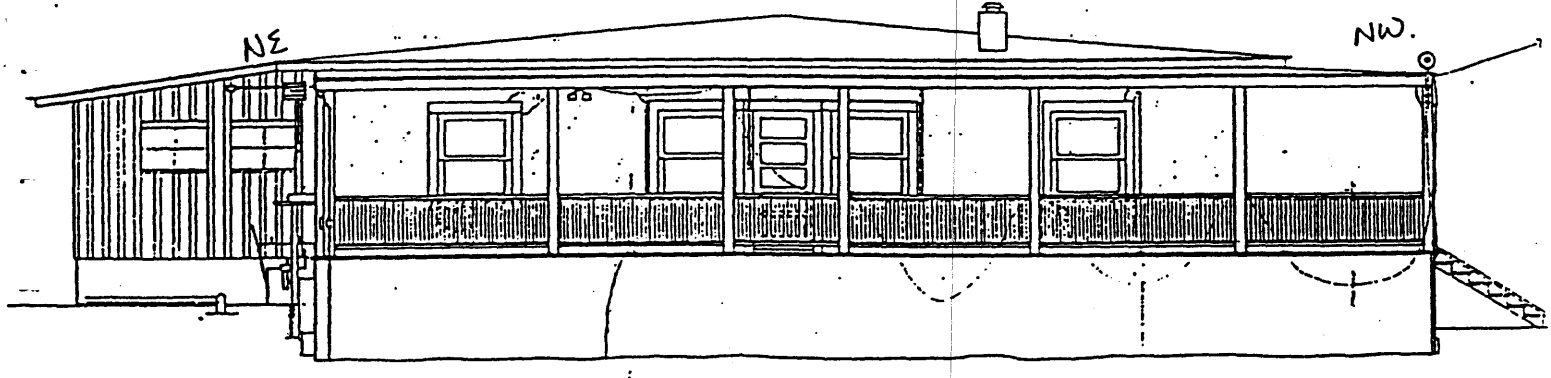


Contrast in San Diego County ranch homes. Top, the early ranch house on San Felipe Rancho, which later became a Butterfield Stage station. Below, one of the modern ranch houses on Los Penasquitos Rancho, operated by the Sawday family.





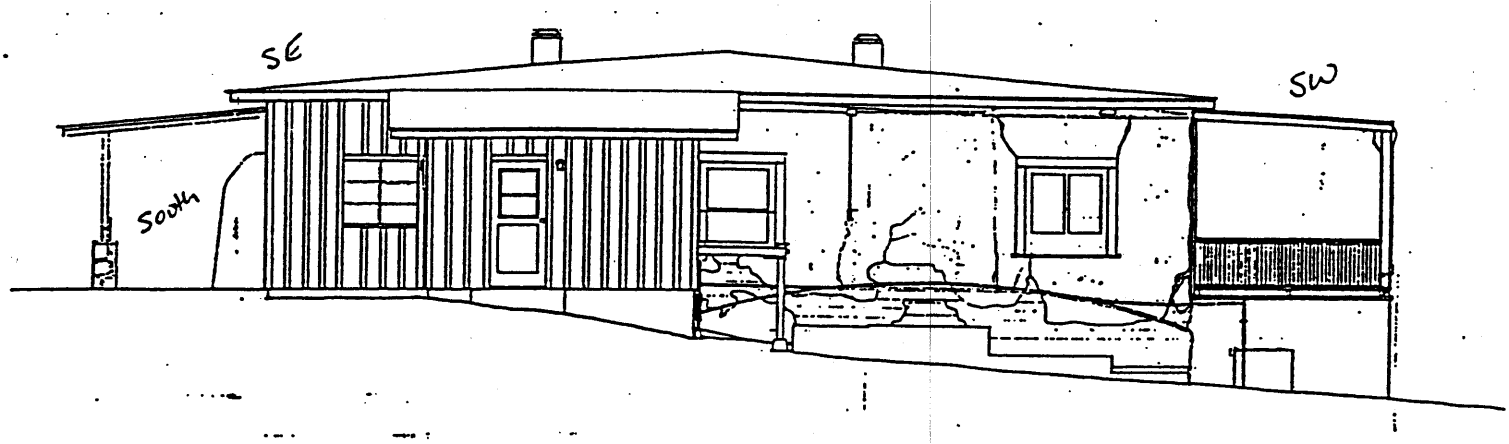
Existing West Elevation



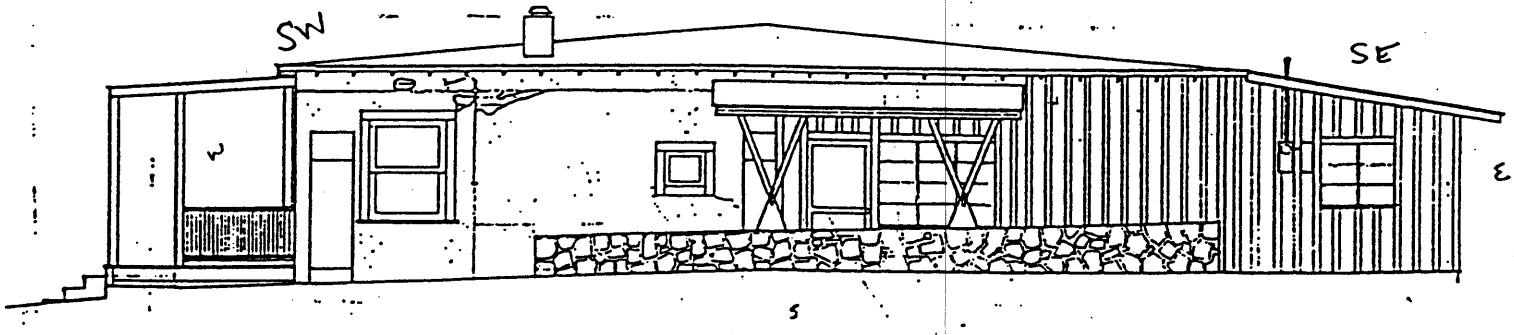
Existing North Elevation

Figure G

Ferris, Johnson & Perkins Architects, Inc.



Existing East Elevation



Existing South Elevation

Figure F

Attachment F

LAS CRUCES, NEW MEXICO, U.S.A., OCTOBER 14-19, 1990

6th International Conference on the Conservation of Earthen Architecture

Adobe 90 Preprints

Under the aegis of US/ICOMOS

Sponsored by:
The Getty Conservation Institute
Museum of New Mexico State Monuments
ICCROM
CRATerre-EAG
National Park Service, Southwest Region

THE GETTY CONSERVATION

THE EVOLUTION OF ADOBE CONSTRUCTION SYSTEMS IN THE SOUTHWEST (USA) AND RELATED CONSERVATION ISSUES.

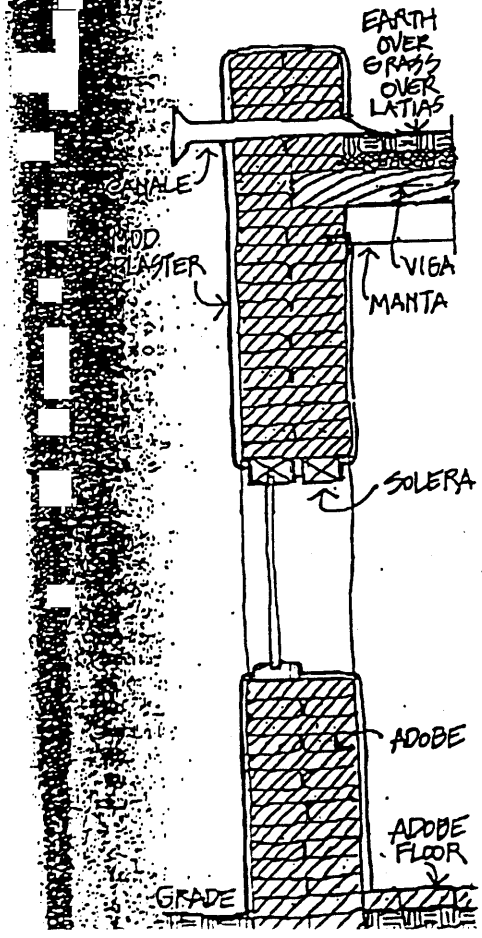
James W. Garrison, Historical Architect
JANUS ASSOCIATES INCORPORATED
602 North 7th Street
Phoenix, AZ 85006
U.S.A.

TRACT

use of adobe has had a
tradition in the arid
ions of the American
hwest. The evolution of
tradition from 1848 to
has produced three
inct construction
ems (Indigenous,
orian and Revival) and
left behind a wide
ety of historical
urces. Deterioration of
resources is often
ed to the
plication of
truction principles from
of these systems to
her. The conservator of
buildings must
erstand the basic nature
these systems, the
ems which arise when
are combined and how to
oach preservation
ventions by impacting
least significant
ent.

WORDS

CONSTRUCTION SYSTEMS
TERIORATION INTERACTION
CONSERVATION PRINCIPLES
RTHEN ARCHITECTURE



Introduction

With the signing of the Treaty of Guadalupe-Hidalgo in 1848 and the completion of the Gadsden Purchase in 1853, that area now known as the American Southwest came under the control of the United States. Imprinted over the natural topography of the region and the earlier Native American, Spanish Colonial and Mexican cultural traditions came American settlement patterns and architectural development. Adobe as a primary building material has had a long tradition within this pattern of regional development. Evolutionary in nature, the wide variety of adobe resources can be classified into three basic systems of construction: Indigenous (1848-1881), Victorian (1882-1914), and Revival (1915-1948). The timing of the primary use of each of these systems is tied to the development of the region's transportation, and industrial infrastructure. As the cultural acceptance of adobe rose and fell within this evolution the transition from one construction system to the next occurred. It is important to remember that each of these unique systems was balanced in its use of materials, detailing and method of reaction to the causes of deterioration.

Today many adobe resources constructed between 1848 and 1948 are considered historically or architecturally significant. At the same time most of these resources have undergone additions, repairs and rehabilitation measures; many times mixing together the three basic systems of construction. Conservation measures undertaken today on historic adobes must consider the basic nature of these construction systems and the significance of each building feature.

Historic Adobe Construction Systems in the Southwest

From 1848 to 1948 three separate adobe construction systems evolved in the American Southwest; the Indigenous System (1848-1881), the Victorian System (1882-1914) and the Revival System (1915-1948). Each of these systems is described below.

The Indigenous System (See Figure 1)

The Indigenous System of Construction, derived from Native American, Spanish Colonial, and Mexican influences, maximizes the use of earth throughout the building. Thick adobe walls (46 to 61 cm/18 to 24 inches) rise directly from shallow trenches. Openings are small and framed with local wood lintels. Simple doors are usually batten while windows have shutters only. Floors are packed earth or adobe pavers. Roofs are flat having packed earth over a simple system of log beams (vigas) branches (latillas) and straw (or grass). Rainwater runs off the roof through wood or metal drains (canales). High ceilings (± 4.27 m/14 feet) rise have muslin linings (mantas). Fireplaces are usually of bee-hive style, located in a corner of the room and built entirely of adobe. Walls are rendered inside and out with a plaster similar to the adobes.

This system of construction reacts to storms like a sponge. The earthen materials soak up the rain water during intense downpours and dry out over a number of hours. Leaks were not uncommon but easily repaired. Maintenance was required more often but was simple in execution. The massive walls and small openings also tempered the hot-arid climate.

Although virtually every community developed its own variations of this system based upon the local climate, types of plants and trees available and the traditions of local craftsman; the basic approach, applying site-formed adobes with locally cut wood branches, was constant. Details often varied by location with some in many parts of New Mexico and metal canales in [illegible] made of Sag

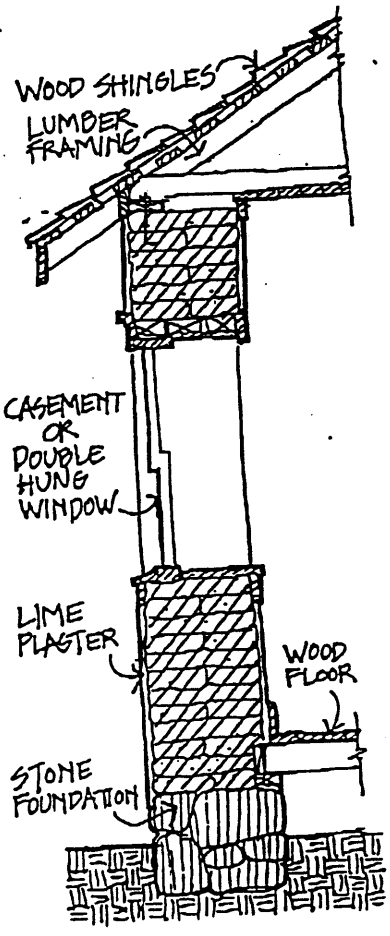
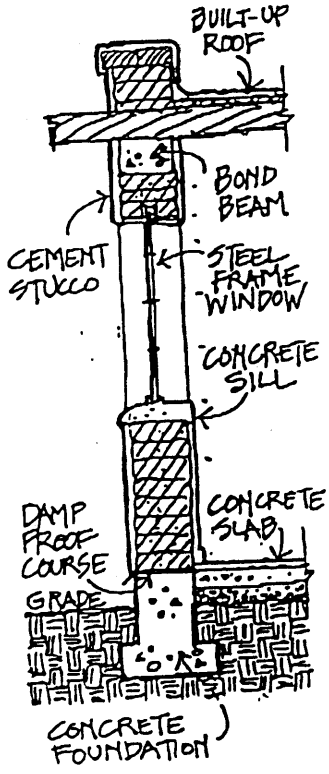


Figure 2
The Victorian System
(1882-1914)



The Victorian System (See Figure 2)

As the U.S. Military established camps, posts and forts in the southwest and as railroads were constructed, Victorian age industrial products and processes arrived in the region. Two industrial structures changed the method of constructing adobe buildings, the sawmill and the limekiln. Using dimensioned lumber in place of logs and branches and lime as an exterior coating, adobe structures needed less maintenance. They could also pass as more traditional brick or stone Victorian structures through the use of ginserbread wood detailing and scoring of the lime stucco.

The Victorian Construction System of adobe retains the basic thick adobe walls, but they are constructed on continuous stone foundations. These foundations were used for two reasons; first, to reduce the potential for rising damp and, second, to support wood framed floors above an adequate crawl space. Windows have larger Victorian proportions with simple wood casement or double-hung windows. Lintels and casings are of dimensioned lumber. Doors are usually four panels with moldings. Rafters and ceiling joists are usually 5x10 cm (2x4 in) with spacing as wide as 76 cm (32 in) on center. Wood shingles are supported on 2.5x cm (1x4 in) spaced sheathing. Rain water falls directly fro moderate eaves or is channelled away from the building through half-round gutters and round downspouts. Ceilings may still be cloth or 2.5x5 cm (1x4 cm) beaded tongue and groove fir or pine but have been lowered 61 to 122 cm (2 to 4 ft).

Exterior walls are rendered with smooth lime plaster applie directly to the scored or raked adobe surface. The lime stucco i usually whitewashed and is often scored as stone or brick. Lim is also used for mortar in the stone foundation. Lime is rarely used as adobe mortar. Interior walls remain plastered with mu and either wallpapered or limewashed. Simple wood jigsaw detail or moldings are often used. Metal is limited to hinges, hardware fasteners, square nails (pre 1890) and anchor bolts. Fireplace are most often constructed of fired common red brick, with midwa placement and detailed with Victorian mantels and overmantels.

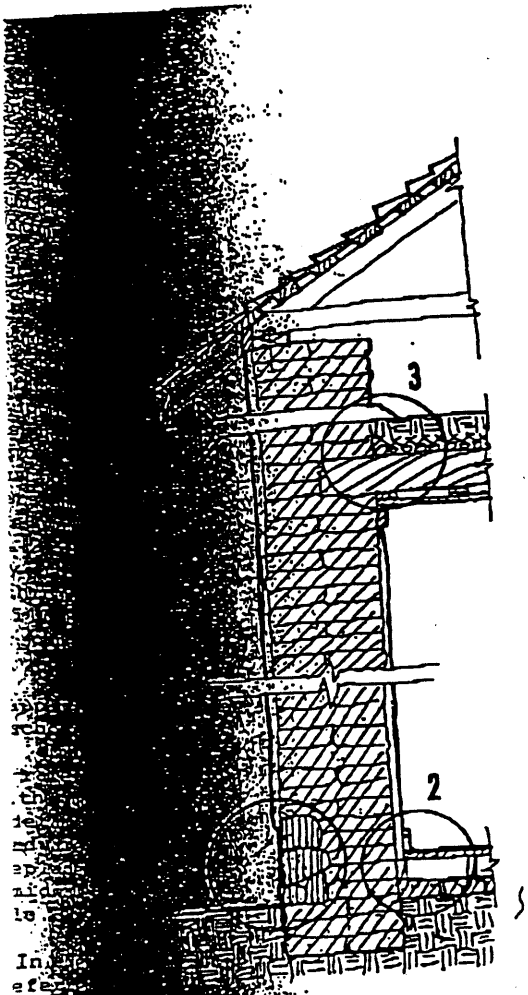
The Victorian adobe also has many design variations. In Ne Mexico adobes with flat roofs and Victorian detailing are referre to as "Territorial" designs while in Arizona this term is mos often applied to houses with square plans and pyramidal roofs Stylistically most designs follow Gothic Revival, Queen Anne Colonial Revival trends. The most visual change during th period is the shift from property line row house site placement discrete detached and often set back site placement. Fired r brick is often found combined with adobe. It can be found fireplaces, at openings, and along parapets as copings.

The Revival System (See Figure 3)

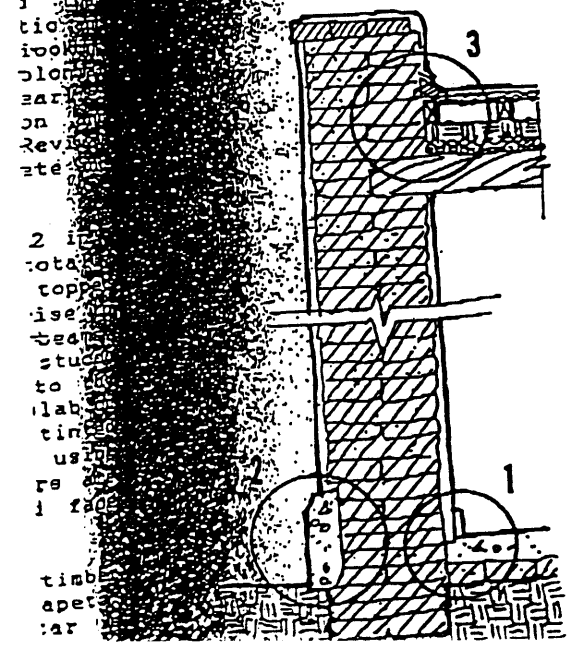
When the settlers in the Southwest finally realized th sudo-Victorian designs from the East lacked regional climatic a cultural appropriateness, they spent a good deal of time lookin at the Indigenous examples to develope Mission, Spanish Coloni and Pueblo Revival Architecture. Although based upon earl examples these new designs are contemporary in function construction method. Adobe, primarily found in Pueblo Revi buildings, is now found combined with Portland cement concrete steel components.

The thick adobe walls are thinned to 25 or 30 cm (10 or 12 in The natural sun-dried adobes are difficult to see, being total encased in concrete. Reinforced concrete foundations are topp by a "damp proof course" of bitumen or metal. The adobes rise concrete sills, steel lintels and reinforced concrete bond beam The walls are plastered inside and out with Portland cement stuc attached to chicken wire or wire lath with nails driven into th adobe. Floors are also constructed of concrete using the "slab grade" method. The slabs are often topped with very hard tin and/or scored concrete. Windows feature steel sash usually us casement styles. Corner windows are used sparingly. Doors a most often batten with rustic wrought iron hardware and fa mounted hinges.

The roofs are structured with telephone pole beams, heavy timb decking and composition built-up flat roofs behind parapet Ceilings may be plastered or left natural wood. Mud mortar still preferred when laying the adobes. Rounded corners, arch and recessed pitches are often found. Fireplaces a



us/Victorian
on Problems



Deterioration Problems

It is important to fully understand how each of these discrete adobe systems was designed to react to the causes of deterioration and therefore the weaknesses in their design. But it is also important to realize that through time, repairs can have been made to adobes designed under one system with materials and techniques from another. The haphazard combination of construction systems has, in many cases, led to accelerated deterioration problems. At the same time combined elements may have become historically significant and therefore require unique preservation treatments in order to preserve incompatible details and materials together. A prime example of this process was the Victorianization of many of The Spanish Colonial churches in New Mexico. Currently many Victorian features, many over 100 years old are being removed for "aesthetic purity", without documented historical justification. The main deterioration problems of each system of construction and combinations of systems are described below.

Indigenous System Deterioration Problems

1. Base wall erosion, caused from rising damp because the adobes extend directly into the ground.
2. Surface erosion and/or coating failure, caused by lack of maintenance.
3. Cracks or leaning walls, caused by ground movement and lack of any substantial foundation.

Victorian System Deterioration Problems

1. Base wall erosion, caused by the use of porous stone (sandstone or limestone) for the foundation, which allow rising damp.
2. Surface coating failure, caused by lack of a mechanical key between the lime plaster and the adobe.
3. Cracks or leaning caused by differential settlement of the stone foundation, or improper triangulation of th roof framing system.

Revival System Deterioration Problems

1. Moisture build-up in the adobes, caused by lack of a damp-proof course, cracks in the concrete stucco, or la of proper roof drainage.
2. Surface coating failure, caused by the corrosion and rusting of metal elements including chicken wire, wire lath, nails and reinforcing bars.
3. Cracks, caused by the difference in expansion coeffencients between concrete and adobe.
4. Rotting of viga ends and other wooden elements, caused by the trapping of moisture behind the concrete stucco.

Indigenous/Victorian Combination Problems (See Figure 4)

1. Stones used to repair base wall erosion rarely extend completely through the wall allowing rising damp to rise higher.
2. Wooden floors are installed directly on earlier earthe floors with little or no crawl space.
3. Frame gable roofs over earlier dirt roofs allow for potential increase in damage from insect or moisture damage to vigas and latillas by hiding formerly open areas.

Indigenous/Revival Combination Problems (See Figure 5)

1. Concrete floors poured into rooms over dirt floors fo ground moisture into the surrounding adobe walls.
2. Concrete aprons or boots also trap ground moisture

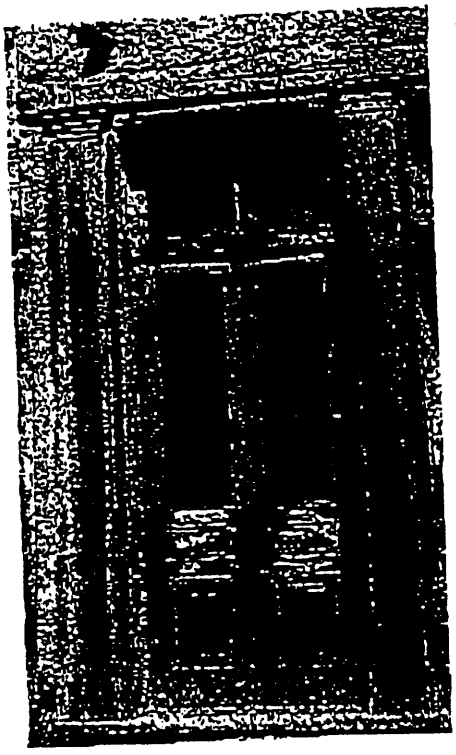
Victorian/Revival Combination Problems

1. Concrete floor slabs, often used for porches, allow moisture to build-up in the base of the walls.
2. Changing the surface coating to cement stucco increases damaged from nails and chicken wire corrosion and traps moisture in the walls.
3. Removing Victorian roof framing to create a flat roof causes a significant loss of historic fabric.
4. Placing mission tile on Victorian roof framing can severely overload the structural members sized for wood shingles.

Conservation Principles

When working on an historic adobe building the following principles should be followed:

1. Document all existing conditions especially the evidence and the sources of deterioration. Cosmetic repairs should be avoided.
2. Fully understand the primary method of construction. Analyze both the materials used as well as all original details (ie. floor to wall connections, roof to wall connections, wall to opening connections, and wall to foundation connections.)
3. Evaluate the significance of all building elements. Based upon chronology, artistic value or historical association define which elements should be treated with the greatest sensitivity and highest conservation standards.
4. Make repairs based upon the primary method of construction. Avoid using hard materials to preserve soft materials. Remove as much concrete as possible from Indigenous or Victorian adobes. Explore the use of lime as a compromising measure on either Indigenous or Revival adobes.
5. Preserve and maintain the existing conditions, unless a less significant element is damaging a more significant element, then impact the less significant element.
6. Make repairs that are reversible wherever possible. The wrong intervention can often not be corrected by the next conservator.



Detail of a Victorian Adobe
TOMBSTONE, ARIZONA
Janus Associates Inc.

Conclusion

Many times the focus of adobe conservation is placed upon the material itself and those mechanical and chemical properties which cause the material to deteriorate. The focus of the above discussion has been to place adobe within a construction system context, specifically three historic construction systems found in the Southwestern region of the United States. By understanding the nature of each system as well as their individual materials the conservator can make appropriate intervention decisions; and thereby, preserve adobe in its natural, original, aesthetic state.

Las Cruces, New Mexico, USA, October 14-19 1990

6th International Conference on the Conservation of Earthen Architecture: Adobe 90 Preprints

Under the aegis of US/ICOMOS
Sponsored by: The Getty Conservation Institute L. A.
Museum of New Mexico State Monuments
ICCROM Rome
CRATerre-EAG France
National Park Service, Southwest Region

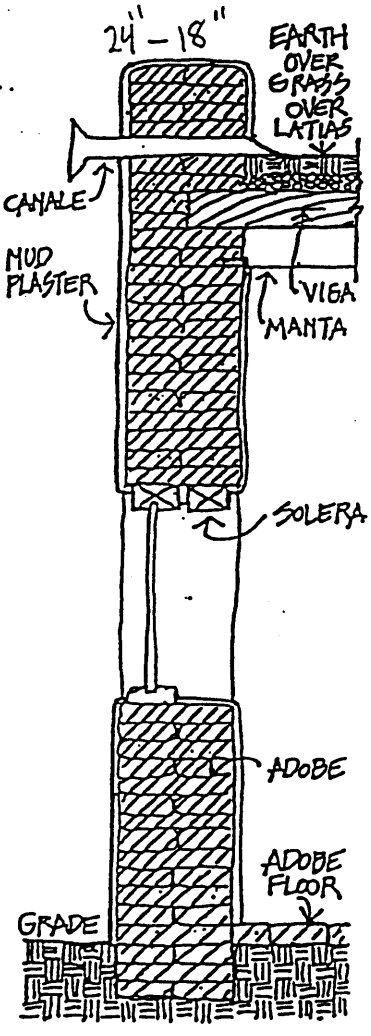


Figure A
The Indigenous System
(1848-1881)

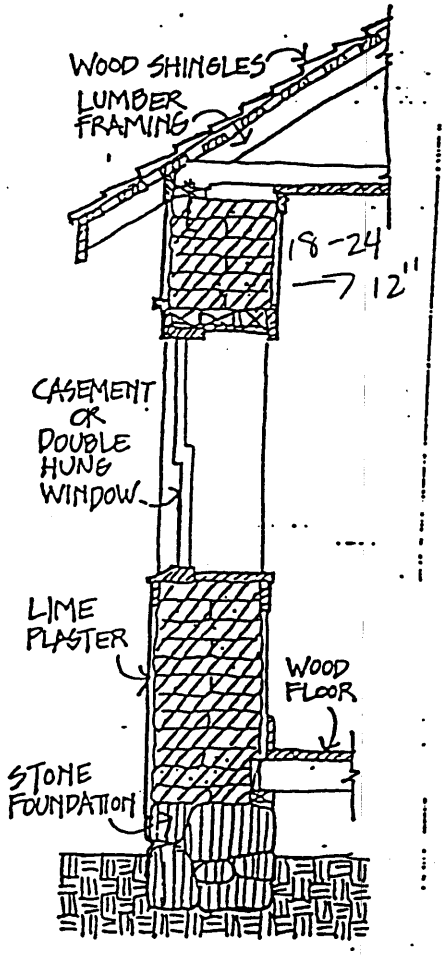


Figure B
The Victorian System
(1882-1914)

24" - 18" - 12"

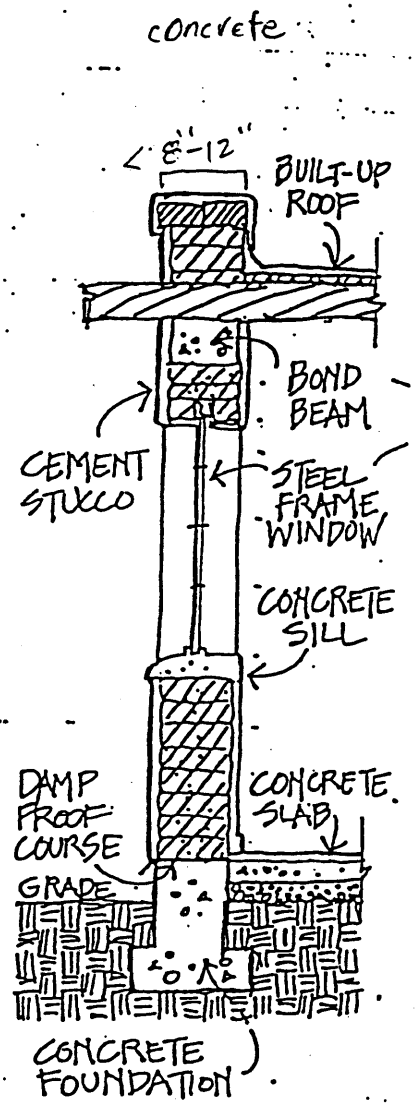


Figure C
The Revival System
(1915-1948)

THE EVOLUTION OF ADOBE CONSTRUCTION SYSTEMS IN THE SOUTHWEST (USA) AND RELATED CONSERVATION ISSUES.

James W. Garrison, Historical Architect
602 North 7th Street
Phoenix, AZ 85006
U.S.A.

Abstract

The use of adobe has had a long tradition in the arid regions of the American Southwest. The evolution of this tradition from 1848 to 1948 has produced three distinct construction systems (Indigenous, Victorian and Revival) and has left behind a wide variety of architectural resources. Deterioration of adobe resources is often related to the misapplication of construction principles from one of these systems to another. The conservator of adobe buildings must understand the basic nature of these systems, the problems which arise when they are combined and how to approach preservation interventions by impacting the least significant element.

Key Words

ADOBE CONSTRUCTION SYSTEMS
DETERIORATION INTERACTION
CONSERVATION PRINCIPALS

Introduction

With the signing of the Treaty of Guadalupe-Hidalgo in 1848 and the completion of the Gadsden Purchase in 1853 that area now known as the American Southwest came under the control of the United States. Imprinted over the natural topography of the region and the earlier Native American, Spanish Colonial and Mexican cultural traditions came American settlement patterns and architectural development. Adobe as a primary building material has had a long tradition within this pattern of regional development. Evolutionary in nature the wide variety of adobe resources can be classified into three basic systems of construction, Indigenous (1848-1881), Victorian (1882-1914), and Revival (1915-1948). The timing of the primary use of each of these systems is tied to the development of the region's transportation, and industrial infrastructure. As the cultural acceptance of adobe rose and fell within this evolution the transition from one construction system to the next occurred. It is important to remember that each of these unique systems was balanced in its use of materials, detailing and method of reaction to the causes of deterioration.

Today many adobe resources constructed between 1848 and 1948 are

considered historically or architecturally significant. At the same time most of these resources have undergone additions, repairs and rehabilitation measures; many times mixing together the three basic systems of construction, Conservation measures undertaken today on historic adobes must consider the basic nature of these construction systems and the significance of each building feature.

Historic Adobe Construction Systems in the Southwest

From 1848 to 1948 three separate adobe construction systems evolved in the American Southwest; the Indigenous System (1848-1881), the Victorian System (1882-1914) and the Revival System (1915-1948). Each of these systems is described below.

The Indigenous System (1848-1881)

The Indigenous System of Construction, derived from Native American, Spanish Colonial, and Mexican Influences, maximizes the use of earth throughout the building. Thick adobe walls (18 to 24 inches) rise directly from shallow trenches. Openings are small and framed with local wood lintels. Simple doors are usually batten while windows have shutters only. Floors are packed earth or adobe pavers. Roofs are flat having packed earth over a simple system of log beams (vigas) branches (latillas) and straw (or grass). Rainwater runs off the roof through wood or metal drains (canales). High ceilings (± 14 feet) might have muslin liners (mantas). Fireplaces are usually of a bee-hive style, located in a corner of the room and built entirely of adobe. Walls are rendered inside and out with mud plaster similar to the adobes.

This system of construction reacts to storms like a sponge. The earthen materials soak up the rain water during intense downpours and dry out over a number of hours. Leaks were not uncommon but easily repaired. Maintenance was required more often but was simple in execution. The massive walls and small openings also tempered the hot-dry-arid climate.

Although virtually every community developed its own variations of this system based upon the local climate, types of plants and trees available and the traditions of local craftsman; the basic approach, applying site-formed adobes with locally cut wood and branches, was constant. In New Mexico canales are usually of wood, in Arizona metal. In Tucson latillas were often made of Saguaro cactus ribs, in Yuma Arrowweed.

The Victorian System 1881-1915

As the U.S. Military extablished camps, posts and forts in the Southwest and as railroads were constructed, Victorian age

industrial products and processes arrived in the region. Two industrial structures changed the method of constructing adobe buildings, the sawmill and the limekiln. Using dimensioned lumber in place of logs and branches, and lime as an exterior coating, adobe structures needed less maintenance. They could also pass as more traditional brick or stone Victorian structures through the use of gingerbread wood detailing and scoring of the lime stucco.

The Victorian Construction System of adobe retains the basic thick adobe walls, but they are constructed on continuous stone foundations. These foundations were used for two reasons, first, to reduce the potential for rising damp and, second, to support wood framed floors above an adequate crawl space. Windows have larger Victorian proportions with simple wood casement or double-hung windows. Lintels and casings are of dimensioned lumber. Doors are usually four panels with moldings. Rafters and ceiling joists are usually 2x4 with spacing as wide as 32 inches on center. Wood shingles are supported on 1x4 spaced sheathing. Rain water falls directly from moderate eaves or is channelled away from the building through 1/2 round gutters and round downspouts. Ceilings may still be cloth or 1 x 4 beaded tongue and groove fir or pine, but have been lowered 2 to 4 feet.

Exterior walls are rendered with smooth lime plaster applied directly to the scored or raked adobe surface. The lime stucco is usually whitewashed and is often scored as stone or brick. Lime is also used for mortar in the stone foundation. ~~Wire~~ Lime is rarely used as adobe mortar.. Interior walls remain plastered with mud and either wallpapered or limewashed. Simple wood jigsaw details or moldings are often used. Metal is limited to hinges, hardware, and fasteners, square nails (pre 1890) and anchor bolts. Fireplaces are most often constructed of fired common red brick, with midwall placement and detailed with Victorian mantels and overmantels.

The Victorian adobe also has many design variations. In New Mexico adobes with flat roofs and Victorian detailing are referred to as "Territorial" designs while in Arizona this term is most often applied to houses with square plans and pyramidal roofs. Stylistically most designs follow Gothic Revival, Queen Anne or Colonial Revival trends. The most visual change during this period is the shift from property line row house site placement to discrete detached and often set back site placement.

<u>The Revival System</u> +1915 - 1945

When the settlers in the Southwest finally realized that sudo-Victorian designs from the East lacked regional climatic and cultural appropriatness, they spent a good deal of time looking at the Indigenous examples and developed Mission, Spanish Colonial

and Pueblo Revival Architecture. Although based upon earlier examples these new designs were contemporary in function and construction method. Adobe, primarily found in Pueblo Revival buildings, is now combined with Portland cement concrete and steel components.

The thick adobe walls are thinned to 10 or 12 inches. The natural sun-dried adobes are difficult to find, being totally encased in concrete. Reinforced concrete foundations are topped by a "damp proof course" of bitumen or metal. The adobes rise to concrete sills, steel lintels and reinforced concrete bond beams. The walls are plastered inside and out with Portland cement stucco attached to chicken wire or wire lath with nails driven into the adobe. Floors are also constructed of concrete using the "slab on grade" method. The slabs are often topped with very hard tinted and/or scored concrete. Windows feature steel sash usually using casement styles. Corner windows are used sparingly. Doors are most often batten with rustic wrought iron hardware and face mounted hinges.

The roofs are structured with telephone pole beams, heavy timber decking and composition built-up flat roofs behind parapets. Ceilings may be plastered or left natural wood. Mud mortar is still preferred when laying the adobes. Rounded corners, arched doorways and recessed nitches are often found. Fireplaces are more rustic but found in both corner and mid-wall locations. Many buildings constructed during this time period are stylistically tied to earlier adobe styles, but have no actual adobes in them, having been replaced by fired red brick or cast-in-place concrete.

Deterioration Problems

It is important to fully understand how each of these discrete adobe systems was designed to react to the causes of deterioration and therefore the weaknesses in their design. But it is also important to realize that through time repairs can have been made to adobes designed under one system with materials and techniques from another system. The haphazard combination of construction systems has, in many cases, led to accellerated deterioration problems. At the same time combined elements may have become historically significant and therefore require unique preservation treatments in order to preserve incompatible details and materials together. A prime example of this process was the Victorianization of many of The Spanish Colonial churches in New Mexico. Currently many Victorian features, many over 100 years old are being removed for "aesthetic purity", without documented historical justification. The main deterioration problems of each system of construction and combinations of systems are described below.

Indigenous System Deterioration Problems

1. Base wall erosion, caused from rising damp because the adobes extend directly into the ground.

2. Surface erosion and/or coating failure, caused by lack of maintenance.

3. Cracks or leaning walls, caused by ground movement and lack of any substantial foundation.

Victorian System Deterioration Problems

1. Base wall erosion, caused by the use of porous stone (sandstone or limestone) for the foundation, which allows rising damp.

2. Surface coating failure, caused by lack of a mechanical key between the lime plaster and the adobe.

3. Cracks or leaning caused by differential settlement of the stone foundation, or improper triangulation of the roof framing system.

Revival System Deterioration Problems

1. Moisture build-up in the adobes, caused by lack of a damp-proof course, cracks in the concrete stucco, or lack of proper roof drainage.

2. Surface coating failure, caused by the corrosion and rusting of metal elements including chicken wire, wire lath, nails and reinforcing bars.

3. Cracks, caused by the difference in expansion coeffencients between concrete and adobe.

4. Rotting of vega ends and other exposed wooden elements, caused by the trapping of moisture by the concrete stucco.

Indigenous/Victorian Combination Problems

1. Stones used to repair base wall erosion rarely extend completely through the wall allowing rising damp to rise higher.

2. Wooden floors are installed directly on eariler earthen floors with little or no crawl space.

3. Frame gable roofs over earlier dirt roofs allow increased insect and moisture damage to vigas and latillas.

Indigenous/Revival Combination Problems

1. Concrete floors poured into rooms over dirt floors force ground moisture into the surrounding adobe walls.

2. Concrete aprons or boots also trap ground moisture into the surrounding adobe walls.

3. Framed roofs over dirt roofs hide moisture and insect problems.

Victorian/Revival Combination Problems

1. Concrete floor slabs, expecially used for porches, allow moisture to build-up in the base of the walls.

2. Changing the surface coating to cement stucco increases damaged from nails and chicken wire corrosion and traps moisture in the walls.

3. Removing Victorian roof framing to create a flat roof causes a significent loss of historic fabric.

4. Placing mission tile on Victorian roof framing can severely overload the structural members sized for wood shingles.

Conservation Principles

When working on an historic adobe building the following principles should be followed:

1. Document all existing conditions especially the evidence and the sources of deterioration. Cosmetic repairs should be avoided.

2. Fully understand the primary method of construction. Analize both the materials used as well as all original details (ie. floor to wall connections, roof to wall connections, wall to opening connections, and wall to foundation connections.)

3. Evaluate the relative significance of all building elements. Based upon chronology, artistic value or historical association defined which elements should be treated with the greatest sensitivity and highest conservation standards.

4. Make repairs based upon the primary method of construction. Avoid using hard materials to preserve soft materials. Remove as much concrete as possible from Indigenous or Victorian adobes. Explore the use of lime as a comprising measure on either Indegenous or Revival adobes.

5. Preserve and maintain the existing conditions, unless a less significant element is damaging a more significant element, then impact the less significant element.

6. Make repairs that are reversable whereever possible. The wrong intervention can often not be corrected by the next conservator.

Conclusion

Many times the focus of adobe conservation is placed upon the material itself and those mechanical and chemical properties which cause the material to deteriorate. The focus of the above discussion has been to place adobe within a construction system or context, specifically three historic construction systems found in the Southwestern region of the United States. By understanding the nature of each system as well as their individual materials the conservationist can make appropriate intervention decisions. And thereby, utilize adobe in its natural, original, aesthetic state.

Attachment G

RESEARCH ISSUES

IN

SAN DIEGO ARCHAEOLOGY

Edited by
Don Laylander

San Diego County Archaeological Society

Updated July 1993

ISSUE E.4: ADOBE FOUNDATIONS

Studies of variation in the types of foundations which were constructed for historic-period adobe walls offer a method for distinguishing the dates at which particular architectural features were erected. These studies may also offer insights into the processes by which Hispanic and Anglo traditions were amalgamated within the region after the mid-nineteenth century.

Susan M. Hector (1993) discussed the adobe foundation question from the perspective of investigations at Los Peñasquitos Ranch House. Hector, modifying a classification which had been suggested by James W. Garrison (1990) for adobes in the American Southwest, distinguished four successive foundation techniques:

– Adobes dating from the Spanish and Mexican periods in southern California characteristically have an excavated foundation trench in which have been set layers or piles of cobbles. In San Diego County, foundations of this type have been reported for Fort Guijarros on Point Loma (May *et al.* 1982), for site SDM-W-1439A in San Diego (Hector 1984), for the northern wing of Los Peñasquitos Ranch House (Hector and Van Wormer 1986), and for several structures in Old Town San Diego. Other examples of the technique have been reported from Los Angeles, Riverside, Ventura, and Santa Barbara counties.

-- Some foundations, particularly those constructed during the early Anglo period (about 1848 to 1880), have courses of adobe bricks laid in a foundation trench or even set directly on the ground surface. In the Southwest, Garrison labelled this technique the Indigenous System, noting continuities between the practices of the Pueblo Indians and early Hispanic settlers. The technique was apparently relatively rare during the Hispanic period in California, although it has been reported from the José Manuel Machado house in Old Town San Diego (Ezell and Broadbent 1972) and from several other locations in the state (Schulz *et al.* 1989). For the early Anglo period, the technique has been reported at Rancho Guajome Adobe near Vista (Hector 1992), begun in 1852, and in several buildings in Old Town San Diego, including the Colorado House, the Rose-Robinson Building, the Wrightington site, the Pedrorena Adobe, and the Machado-Silvas Adobe (Schulz *et al.* 1987, 1989; Wallace 1973; Glenn Farris and Larry Felton, personal communications to Hector).

-- After about 1880, foundation for adobe walls were constructed using mortared fieldstone. The western wing of Los Peñasquitos Ranch House, illustrates this technique. The Murray Adobe in Spring Valley and the Verlaque Adobe in Ramona may also be examples (May, personal communication to editor).

– In the early twentieth century, foundations were constructed with concrete blocks or slabs. This technique was employed for portions of the northern wing of Los Peñasquitos Ranch House.

The use of the second of the techniques, the Indigenous System of direct adobe foundations, may

represent a technological regression in San Diego County. Adobe readily absorbs water from the soil, and walls which have been built on such foundations have a tendency to fail at their bases, as has been observed to have occurred at Rancho Guajome Adobe. One explanation for the use of the Indigenous System may be an absence of skilled labor. According to Hector (1993:133), "Felton (personal communication, 1992) has suggested that, as of the 1850s, there was a loss of knowledge in southern California concerning the construction of adobe buildings." However, it may also be noted that the builder of Rancho Guajome Adobe, Cave Johnson Couts, was the son-in-law of Juan Bandini and that Couts made extensive use at his rancho of the labor of hispanicized Indians from Mission San Luis Rey (Engstrand and Scharf 1974).

Leland E. Bibb and Ronald V. May (personal communications to editor) suggested reservations concerning the use of foundation types to distinguish chronology, noting that ethnicity and local availability of raw materials may be alternative factors. Bibb noted that the Pablo Apis Adobe, built in Temecula between 1845 and 1849, had adobe bricks laid directly in a trench, while the nearby John Magee Store Adobe, built in the late 1850s, used stone foundations. Bibb and May also questioned the relevance of the cobble structure at Fort Guijarros to this issue.

TEST PROPOSITIONS

(1) That adobe walls in the region constructed prior to about 1848 will / will not be found fairly consistently to have cobble foundations.

(2) That adobe walls in the region constructed between about 1848 and 1880 will / will not be found consistently to have direct (Indigenous System) foundations.

(3) That adobe walls in the region constructed after about 1880 will / will not be found consistently to have mortared fieldstone or concrete foundations.

(4) That, for adobe walls constructed between about 1848 and 1880, the use of either cobble foundations or the Indigenous System will / will not be relatable to the builder's ethnic or social position, within which the local Hispanic tradition remained strong or was weak, respectively.

DATA REQUIREMENTS

Excavate and record adobe wall foundations from a variety of chronological, functional, and ethnic/social contexts.

Record the character and extent of adobe wall failure associated with various foundation techniques.

REFERENCES

Engstrand, Iris Wilson, and Thomas L. Scharf
1974 Rancho Guajome: A California Legacy Preserved. *Journal of San Diego History* 20:1-14.

ISSUE E.4: ADOBE FOUNDATIONS

Ezell, Paul H., and Noel D. Broadbent

1972 The Archaeological Investigations at the Casa de José Manuel Machado. *Pacific Coast Archaeological Society Quarterly* 8(4):1-34.

Garrison, James W.

1990 The Evolution of Adobe Construction Systems in the Southwest (USA) and Related Conservation Issues. In *Adobe 90 Preprints*, pp.53-56. Getty Conservation Institute, Los Angeles.

Hector, Susan M.

1984 *Excavation and Analysis of the Historic and Prehistoric Components of Archaeological Site SDM-W-1439A.* Regional Archaeology Papers No. 1. San Diego.

1992 *Results of Archaeological Monitoring Conducted for Geotechnical Testing, Rancho Guajome, Guajome Regional Park, San Diego County.* San Diego County Parks and Recreation Department.

1993 Archaeological Research at Los Peñasquitos Ranch Complex: Summary of Studies Focussed on Site Chronology and Function. *Proceedings of the Society for California Archaeology* 16:129-139.

Hector, Susan M., and Stephen R. Van Wormer

1986 *Broken Fragments of Past Lifeways: Archaeological Excavations at Los Peñasquitos Ranch House Resource Area, San Diego (Phases I, II, and III).* RECON, San Diego. On file at the South Coastal Information Center, San Diego State University.

May, Ronald V., Roy Pettus, and Stephen A. Colston

1982 *Fort Guijarros.* Cabrillo Historical Association, San Diego.

Schulz, Peter D., Judy A. Berryman, and Linda Roth

1989 Archaeological Investigation of an American-Period Adobe Site in Old Town San Diego. *Pacific Coast Archaeological Society Quarterly* 25(2):67-77.

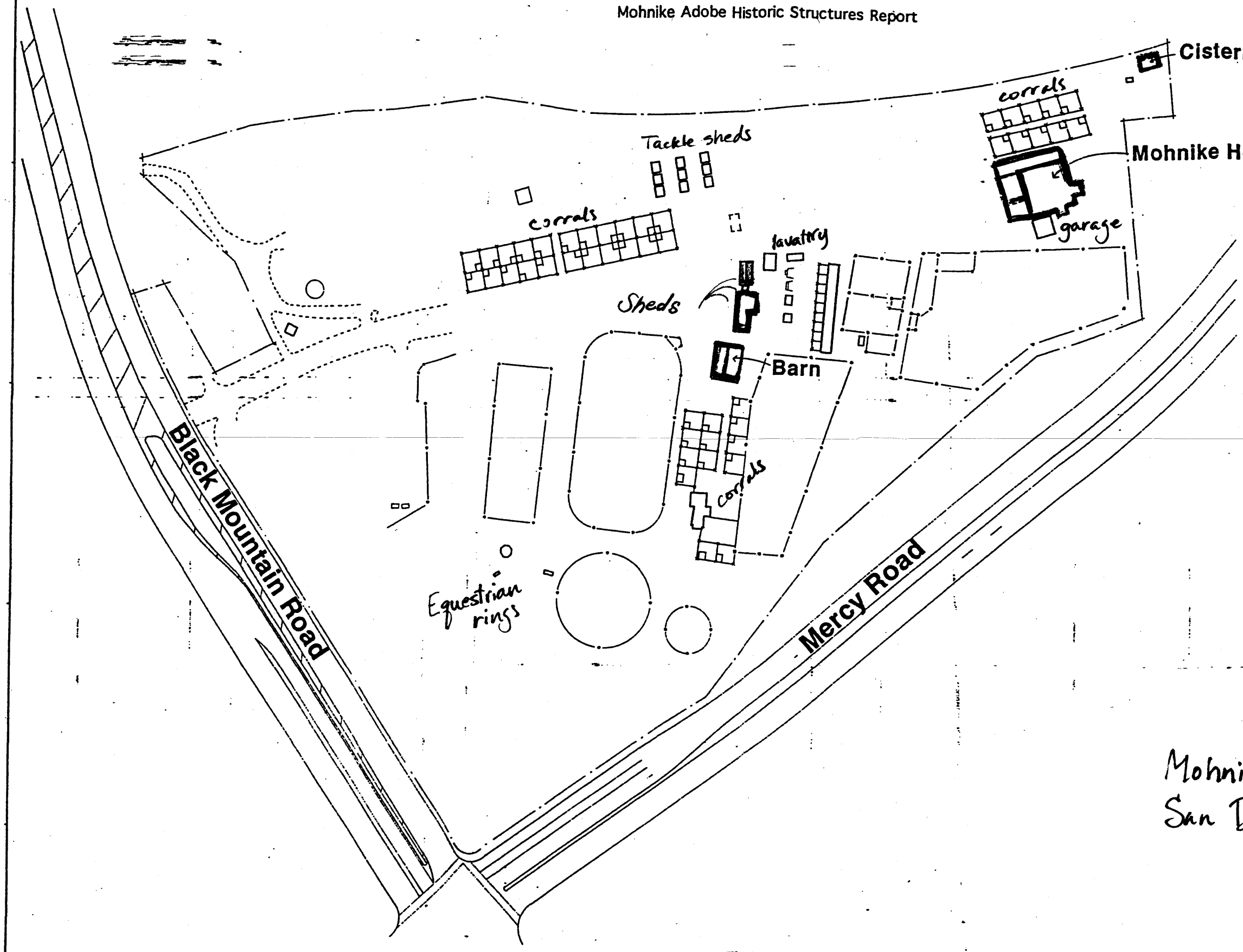
Schulz, Peter D., Ronald Quinn, and Scott Fulmer

1987 Archaeological Investigations at the Rose-Robinson Site, Old Town San Diego. *Pacific Coast Archaeological Society Quarterly* 23(2):1-51.

Wallace, William J.

1973 *Archaeological Investigations at the Casa Machado-Silvas, Old Town, San Diego, Part I: Architecture.* California Department of Parks and Recreation, Sacramento.

(7/92; updated 7/93)



Mohnike Adobe
San Diego Co. CA

True North
North

Enlarged Partial Site Plan
NTS

Figure D

Ferris, Johnson & Perkins Architects, Inc.

FERRIS JOHNSON & PERKINS ARCHITECTS INC
3776 FRONT ST
SAN DIEGO
CALIF 92103
619-297-4659

DRAWN BY:
REVISIONS BY:
DATE:
REVISIONS:
TITLE:
SHEET NO.: 3
JOB: