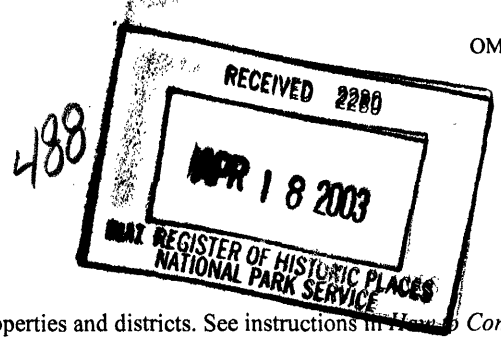
NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018



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United States Department of the Interior
National Park Service

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 Southwestern Range and Sheep Breeding Laboratory Historic District

other names/site number Fort Wingate Work Center; AR-03-03-02-483; --1095; --1096; --1378; and --2010

2. Location

street & number Fort Wingate Work Center, Cibola National Forest ☒ N/A not for publication

city or town Fort Wingate ☒ N/A vicinity

state New Mexico code NM county McKinley code 031 zip code 87587

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this ☒ 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 ☒ meets ☐ does not meet the National Register Criteria. I recommend that this property be considered significant ☐ nationally ☒ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Katherine Slick 3/19/03
Signature of certifying official Date

NM State Historic Preservation Officer
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.)

Judith G. Propper 4/15/03
Signature of commenting or other official Date

FPO, Southwestern Region, USDA Forest Service
State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

☑ 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): _____

for Signature of Keeper — Date of Action

Edson M. Beall 5/30/03

5. Classification

Ownership of Property)
(Check as many boxes as apply)

- ☐ private
- ☐ public-local
- ☐ public-State
- ☒ public-Federal

Category of Property
(Check only one box)

- ☐ building(s)
- ☒ district
- ☐ site
- ☐ structure
- ☐ object

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
14	2	buildings
5		sites
20	11	structures
		objects
39	13	Total

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

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions)

GOVERNMENT: research facility
AGRICULTURE: animal facility
DOMESTIC: institutional housing

Current Functions
(Enter categories from instructions)

GOVERNMENT: government office

7. Description

Architectural Classification
(Enter categories from instructions)

LATE 19TH AND 20TH CENTURY REVIVALS:
Pueblo Revival

Materials
(Enter categories from instructions

foundation CONCRETE
walls STONE: sandstone
roof ASPHALT
other WOOD: log

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

SUMMARY

The Southwestern Range and Sheep Breeding Laboratory Historic District is located in the Zuni Mountains of west central New Mexico approximately 16 kilometers (10 miles) east of Gallup, New Mexico, and 3.6 kilometers (2.2 miles) southwest of Fort Wingate, New Mexico, on Forest Road 546 (Map 1). It covers an area of approximately 81.84 acres administered by the Cibola National Forest. The focus of the district is the building complex of the current Cibola National Forest Fort Wingate Work Center originally established as the Southwestern Range and Sheep Breeding Laboratory in 1935 by the Bureau of Indian Affairs and the U.S. Department of Agriculture. The district contains 14 contributing buildings, 20 contributing structures, five contributing sites, and two noncontributing buildings and 11 noncontributing structures. The district has three major areas of significance: New Deal Social History, Navajo Heritage, and Architecture. Physical characteristics of the district remain largely unchanged since the 1930s.

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)

- [X] **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.
- [ ] **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)

SOCIAL HISTORY
AGRICULTURE
ETHNIC HERITAGE – NATIVE AMERICAN
ARCHITECTURE
ARCHEOLOGY – HISTORIC - ABORIGINAL
ARCHEOLOGY – HISTORIC – NON-ABORIGINAL

Period of Significance

1935-1952

Significant Dates

N/A

Significant Person
(Complete if Criterion B is marked above)

Cultural Affiliation

Navajo

Architect/Builder

Mayers, Murray, and Phillip, architects

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

9. Major Bibliographical References

Bibliography
(See Continuation Sheets 9-52 through 9-58.)

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
- [X] Federal agency
- [ ] Local government
- [ ] University
- [ ] Other

Name of repository: Cibola NF

10. Geographical Data

Acreage of Property 81.84 acres

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

1	12/ Zone	720400m/ Easting	3926290m Northing	3	12/ Zone	721080m/ Easting	3925920m Northing
2	12/	720910m/	3926280m	4	12/	720260m/	3925620m

☐ See continuation sheet.

Verbal Boundary Description
(See Continuation Sheet 10-59.)

Boundary Justification
(See Continuation Sheet 10-59.)

11. Form Prepared By

name/title Aleta J. Lawrence, Archeological Technician

organization Cibola National Forest date March 17, 2003

street & number 2113 Osuna Avenue, NE, Suite A telephone (505) 346-3834

city or town Albuquerque state NM zip code 87113-1001

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 minute series) indicating the property's location. (See Fort Wingate Quadrangle, enclosed.)
A **sketch map** of the Southwestern Range and Sheep Breeding Laboratory Historic District (See Fig. 7-1.)

Photographs

Representative **black and white photographs** of the property. (See Continuation Sheets Photo 60 through Photo 62.)

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

Property Owner

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

name Cibola National Forest, Mount Taylor Ranger District

street & number 1800 Lobo Canyon Road telephone 505-287-8833

city or town Grants state NM zip code 87020

ENVIRONMENTAL SETTING

The Southwestern Range and Sheep Breeding Laboratory Historic District (Sheep Lab Historic District) occupies a small valley and adjacent uplands that overlook, to the north, the valley of the south fork of the Rio Puerco of the West (Rio Puerco Valley) and the highly dissected, barren slopes of the Wingate Cliffs beyond (Photo 1). The forested slopes of the Zuni Mountains form a backdrop to the south (Photo 2), and Milk Ranch Canyon abuts the District to the southwest. Water sources in the area consist of springs arising within Milk Ranch Canyon, including Santa Fe Spring. Bear Spring, which is, probably, the historic *Ojo del Oso* described in Section 8, lies 2.1 km (1.2 miles) northeast of the Sheep Lab Historic District, within a drainage unnamed on USGS maps.

The vegetation in the Sheep Lab Historic District is dominated by piñon-juniper woodland on the slopes above the valley. Understory plant species include cliff rose, mountain mahogany, big sagebrush, four wing saltbush, rabbitbrush, snakeweed, winterfat, Gambel oak, yucca, prickly pear cactus, and various grasses such as Indian rice grass, blue grama, galleta, Western wheat, and stipa. The valley supports a thick growth of sagebrush and various grasses. The most notable change to the area during the last thirty years is the encroachment of piñon and juniper woodland and sagebrush into areas that were formerly grassland.

CRITERIA FOR CONTRIBUTING RESOURCES

The Sheep Lab Historic District is being nominated under Criteria A and D, i.e., association with significant historical events and potential to yield information important to prehistory and history. A resource is considered to be contributing if it contributes to, or has the potential to illuminate, the District's historic significance. Therefore, a resource is considered contributing if it is located within the boundaries of the Sheep Lab Historic District and meets at least one of the following criteria:

- Designed by the architectural firm of Mayers, Murray, and Phillip;
- Constructed for, moved to, or used by the Wingate Range and Sheepbreeding Laboratory during its period of significance: 1935-1952;
- Constructed or used by Navajo Sheep Lab workers or their families; and/or
- Has potential to contribute information to the history of the Sheep Lab during the period of its significance: 1935-1952.

Because the Sheep Lab Historic District is not being nominated under Criterion C, strict adherence to an architectural style is not a mandatory requirement for contributing status. Nonetheless, all of the contributing buildings exhibit stylistic elements of the plasterless variant of the Pueblo Revival architectural style favored for government buildings in the Southwest during the first three decades of the twentieth century. This "look" pervades the District and lends it a unifying visual continuity. It is also symbolic of the historic New Deal ideologies that brought the Sheep Lab into being and guided its operations throughout its period of significance. It is important, therefore, that any repairs or additions to contributing buildings and structures possessing plasterless Pueblo Revival characteristics be done in a manner that does not substantially change their historic appearance. (See Section 8 for discussions regarding the historic significance of the plasterless variant of the Pueblo Revival style.)

DESCRIPTION OF THE HISTORIC DISTRICT

The Southwestern Range and Sheep Breeding Laboratory Historic District is a complex of 14 Pueblo Revival style buildings and additional structures and sites, most of which are associated with the Lab's operation from 1935 to 1952 (Tables 1, 2 and 3). With the exception of seven resources, all were recorded as part of Forest Service site AR-03-03-02-483/LA67819 (Site 483). For the purpose of this nomination, the extant buildings and structures recorded as part of Site 483 – and known as *features* in archeological jargon -- have been listed as separate contributing or noncontributing resources of the Historic District. Four of the other resources are Sheep Lab components of Forest Service sites AR-03-03-02-1095/LA68258, AR-03-03-02-1096/LA68259, AR-03-03-02-1378/ LA68278, and AR-03-03-02-2010/LA47091 (Sites 1095, 1096, 1378, and 2010, respectively). Given the chronological order of recording cultural material in the area, the Forest Service identified these resources as sites. They are, however, no different in character from the resources (features) of Site 483. The remaining three resources are recent noncontributing structures (see below).

In this nomination, resource numbers 1 through 51 correspond to the feature numbers used in the Forest Service records for Site 483, e.g., *Resource* No.12, per this nomination, is the same as *Feature* No.12, per Forest Service data for Site 483. These numbers are sometimes discontinuous. This is because some resources within the Historic District have been removed subsequent to their recording, or are not associated with the Sheep Lab period of significance. Some of these resources also bear identifiers that incorporate the letters "FW" and a three-digit number beginning with a "7," e.g., *The Laboratory-Office Building, FW 701.* These "FW"

designations are the original unique identifiers assigned by the Sheep Lab to some of the resources discussed in this nomination (USDI Indian Service, 1957, 194?, n.d.). They are still used by the Forest Service and are retained here to further aid in identifying the buildings and structures in the Sheep Lab Historic District. Resource numbers 52, 53, and 54 do not correspond to pre-existing feature numbers for Site 483, but rather were assigned during the drafting of this nomination to recent noncontributing structures located in the Historic District.

Sites 1095, 1096, 1378, and 2010 were not assigned other resource numbers, as their site numbers serve as unique identifiers.

See Table 1 for a list of contributing resources for the Historic District. Table 2 lists the non-contributing resources, i.e., the Shop (Resource 5), the Barn (Resource 43), some recent water diversion structures (Resource 52), a recent culvert (resource 53), and a recent earthen berm (Resource 54).

The Sheep Lab Historic District resources are concentrated in three major areas, designated as Areas A, B, and C in Forest Service records for Site 483. Area A, the core of the Historic District, includes the laboratory/office building FW 701 (Resource 1), a warehouse FW 711 (Resource 6), an isolated garage FW 713 (Resource 2), four staff residences with associated garages (FW 702, 703, 704, 705, 706, 707, 708; Resources 1-4, 6, 11-17, respectively; Photos 2-5), a well and pump house FW 714 (Resource 3), and a water tank, FW 715 (Resource 4). All are located on a low ridge on the south side of the pasture. Area B, northwest of Area A, consists of a concentration of three staff residences (FW 718, 719, and 734, Resources 21, 22, and 24, respectively), a Privy FW 722 (Resource 23), an outdoor oven (Resource 26), and a semisubterranean dugout of uncertain function (Resource 25). All of these resources (Photos 6-9) are associated with the Navajo permanent staff that resided at the Sheep Lab during their tenures there. Area C, northeast of Area A, includes hogan and sweathouse remains consisting of rock walls, rock alignments, and burned and unburned rocks that appear to have been used by seasonal Navajo Lab employees (Resources 27-32, Photo 10). Associated with Area C, but located further to the east, are two additional Navajo sweathouse remains consisting of hearths and burned rock piles (historic component of Site 1378).

Dispersed resources include a barn, located between Areas A and B, culverts (Resources 10, 19, and 20), stone rubble piles that are possible hogan remains (Resources 33 and 44), check dams (Resources 34-36, 41), a bridge (Resource 37), reservoirs (Resources 38 and 42), a concrete

pad (Resource 39), trash concentrations (Resources 44-49 and the historic component of site 2010), the remains of a residence with associated garage and root cellar (Resource 18), a well and pump house (Resource 51), and sweathouse remains (Sheep Lab component of site 1095). Resource 40 is a long ditch that carried water from the pump and well house FW 714 (Resource 3) in Area A to the breeding and lambing pens and horse corrals that were situated along its banks, between the barn and Area B.

The Laboratory-Office Building, FW 701 (Resource 1), the Director's Residence, FW 702 (Resource 11) and Staff Residence 703 (Resource 703) were built in 1935. With the possible exception of Staff Residence FW 734 (Resource 24), the remaining buildings of Area, A, B, and C were built by 1943 (Linda Popelish, personal communication, March, 2002; see USDI Indian Service n.d.). The Shop (Resource 5, Quonset Hut) was apparently moved to the site from Fort Wingate in 1953 (Copeland 1988a:14-15). The dispersed surface resources, including hogans, sweathouses, and water management structures were added incrementally during the period of significance occupancy of the Sheep Lab Historic District, 1935-1952. The original barn, FW 717, was apparently demolished in 1960 (USDI Indian Service 1957). Its replacement stands on the site of the old building.

The fourteen Pueblo Revival style buildings are made of quarried sandstone set in a 16" thick concrete wall. The sandstone was hewn into irregular square-cornered blocks and laid in a random ashlar pattern. Roofs are flat, with protruding ponderosa pine logs (vigas) set on the short axis of the buildings; some possess even-edged parapets. The roofs are drained by protruding wood and copper troughs (*canales*). The windows have pine lintels and stone lug sills.

The physical integrity of the District is high. Historic photographs and aerial photos illustrate how little the facility has changed since its construction. The main alteration consists of low-pitched gabled roofs, which were added to the roofs of the staff residences of Area A (Resources 11, 12, 14, and 16) during the period of 1952-1964. The most notable change in recent years has been the encroachment of pinyon and juniper woodland and sagebrush into areas that were formerly covered with grassland. There have been no major alterations to the proposed Historic District buildings since Forest Service began its management of the site, in 1966. Minor changes include the removal of the coal furnace and associated chimneys in the Laboratory-Office building (Resource 1) and in several staff residences, and the installation of a radio antenna on the Laboratory-Office building. Several buildings and structures associated with the Sheep Lab occupation are no longer extant. Resources 27, 28, 30-33, and 44, and the historic components of sites 1095 and 1378 are likely the remains of resident hogans and sweathouses of

seasonal Navajo employees. The concrete pad, flagstone, and metal pipes of Resource 18 are the remains of a former log residence (FW 709), garage (FW 710), and root cellar (FW 732). They were apparently built before the Sheep Lab occupation, when the land was part of the Milk Ranch. These resources were used by the Lab as a staff residence and outbuildings and were still standing in the late 1960s. Sheep breeding and lambing corrals and tent house frames (FW 720, FW 721) in photographs dating to the late 1930s and 1940s or in plans for the Sheep Lab (USDI Indian Service 194?) have not yet been identified as surface remains. A gas tank and pump (Resource 7, FW 712) originally located in Area A have been removed.

Contributing Buildings

Laboratory-Office Building, FW 701 (Resource 1, Photo 3). Situated on the low ridge south of the horse pasture, this one-story building is U-shaped in plan, consisting of a main mass oriented east-west and two wings or secondary volumes to the east and west. Both wings protrude northward from the ends of the main volume, which contains a three-room basement. The building measures 103' x 68'-6". Its walls are constructed of irregular cut sandstone laid in a random ashlar pattern. The roof is flat with protruding ponderosa pine vigas that are set on the short axes of the main mass and wings. Inside, the ceiling above the vigas is made with flush board. A parapet is present only on the southern elevation of the main volume. Wood and copper canales are present on both the north and south elevations of the primary volume. The south canales have been modified with post-construction extensions. The main mass is slightly higher than the east and west wings. The roof has been altered by the removal of a boiler room chimney originally located at the west end of the primary volume, and by the addition of a radio antenna. The south-protruding vigas of the central volume have been cut off and the holes blocked with stone. Windows have pine lintels and stone lug sills. The windows consist variously of single 1/1, single 1/1/1, grouped 1/1/1, and triple 1/1/1/1 lights and have hopper operations. All of the exterior doors are panel style with fixed three-pane windows. A sandstone wall encloses the building. The north elevation of the main mass contains a portal paved with sandstone; a flagstone walk extends from the portal. The path begins in front of the building's main door and runs northward, piercing the enclosing stone wall and ending in the area immediately in front of the building (currently used as a parking area). Both the walkway and the porch are now covered with concrete.

Early descriptions of the building indicate that there were two offices and a partial bath in the east wing. A wool grading room, darkroom, laboratory, and wool sorting room occupied the central core. The west wing housed a warehouse with a loading platform and the experimental

rug weaving room. The Forest Service currently uses the building as an office and seasonal crew quarters. Only minor interior remodeling has occurred. The former offices in the east wing now serve as a bunk area, bathroom, and kitchen. The wool grading room is currently employed as a lounge, the darkroom has been remodeled into a bathroom, while the laboratory is now an office. The wool sorting room has become another bunk area. In the west wing, the warehouse and loading platform are used as a storage area. This area has been modified by the removal of most of the loading platform and the installation of a walk-in cooler. The former rug weaving room is now another bunk area. The basement rooms were originally used as a fuel room and a boiler room, beneath the main mass, and a storeroom beneath the west wing. The fuel and boiler rooms are currently not in use, and the storeroom is used as a recreation room. These alterations have made the building more effective as crew quarters and contemporary office space and have kept the building in use and in good repair.

Garage and Carport, FW 713 (Resource 2). Resource 2 is a one-car garage and three-car carport, L-shaped in plan, that measures 47'-6" x 29'. The walls are made of irregular square-cornered sandstone laid in a random ashlar pattern, with concrete mortar. The garage has a concrete floor that protrudes about 3'-6" north of the entrance to the carport section of the building. The roof is flat with a parapet, and wood and copper canales extend from its east and south elevations. There are non-protruding ponderosa pine vigas set along the short axis of the carport and the short axis of the garage. The interior ceiling above the vigas is made with flush board. Both the east and west elevations have a single 1/1 window with pine lintels, stone lug sills, wooden surrounds and hopper operations. The garage and the carport are separated by a flush board wall with a vertical plank door. The garage entrance is through a standard garage door that is contemporary with the rest of the building. The carport lintel rests on two wooden supports. Each support is made of four bolted 4" x 12" milled lumber planks. It appears that the carport may have had doors present at one time. This is indicated by the presence of metal braces, trimmed wall surfaces, and metal floor "pin catches" at each end of the structure.

Well and Pump House, FW 714 (Resource 3). The pump house is rectangular in plan and measures 19' x 15'. The walls are of unplastered, irregular cut sandstone blocks laid in a random ashlar pattern with concrete mortar. The roof is flat with a parapet and a single concrete *canal* (singular of *canales*) on the north elevation. The roof is supported with square concrete "vigas" that do not protrude through the exterior of the structure. Blocked-in windows are present on the west, north, and east elevations. The sandstone used to block the windows is a purple and blond-banded type, identical to that used in the Warehouse, FW 711 (Resource 6), Garage FW 708

(Resource 17), and Staff Residence FW 734, in Area B (Resource 24). The windows and exterior door have pine lintels and stone-lug sills. The west and east elevations contain a single window each, while the north elevation has two windows. The entrance in the south elevation has a pine lintel and a panel door with a fixed four-pane window. The concrete sump is appended to the southeast corner of the pump house and measures 10'-6" x 10'-6". The only visible component of the sump is a manhole cover; the remainder is silted over. There is an 8'-6" x 8'-6" concrete pad/foundation set 2'-6" west of the pump house. It is detached from the building. It may have supported a superstructure that was appended to the pump house at a later date. Three vertical grooves chiseled in the sandstone wall in the vicinity of one of the blocked windows may have facilitated attachment of such an addition.

Warehouse, FW 711 (Resource 6, Photo 4). The Warehouse measures 43'-6" x 24' in plan with a 13'-10" x 7'-10" loading platform adjacent to its southwest elevation. A short set of concrete steps is present on the northwest side of the loading platform. Its walls are of irregular sandstone blocks laid with concrete in a random ashlar pattern. There is no external plaster or stucco. The sandstone has purple and blond bands and corresponds to the sandstone used to construct Garage FW 708 (Resource 17) and Staff Residence FW 734 (Resource 24). The building has a concrete floor, and a concrete cap on the loading platform is covering an older sandstone platform. The roof is flat with a parapet on the north, west, and south elevations. The roof overhangs the vigas on the east elevation. No canales are present There is a short chimney in the southwest corner of the building. Protruding ponderosa pine vigas are set along the short axis of the building and extend over the loading platform to form a flat-roofed overhang. The interior ceiling above the vigas is constructed of flush board. The north, east, and south elevations have fixed windows in three groupings of three, with wood muntins and mullions. The lintels are pine with wood surrounds without sills. Each lintel is made of three separate lintels set parallel against each other to span the width of the wall. The lintels do not appear to be bolted together. The structure's interior has been divided into two rooms with a post-construction dry wall forming a small storage area on the northwest end of the building. Access is via the west elevation by a standard garage door that is contemporaneous with the rest of the building. There are no utilities present in the Warehouse.

Director's Residence, FW 702 (Resource 11, Photo 5). This one-story residence is rectangular in plan and measures 48'-6" x 39'. With the Laboratory-Office Building, FW 701 (Resource 1) and Staff Residence FW 703 (Resource 12) sited directly to the southeast, it is one of the three original buildings constructed for the Sheep Lab. Its walls are made of irregular cut sandstone

laid in a random ashlar pattern. The floor plan consists of three bedrooms, a full bath, a living room with fireplace, kitchen, pantry, a one-quarter basement with outside access, and an underground garage under the west side of the house.

The roof was originally flat with protruding ponderosa pine vigas set along the short axis of the house. The ceiling above the vigas is made with flush board. A parapet encircles the roof, and two canales were present on both the south and west elevations. The canales are now partially blocked with wood. A post-construction low-pitched gable roof now rests on the parapet, and the vigas on the south elevation have been cut off and the holes plugged with stone. The peak of the gable roof is oriented with the long axis of the house. The original stone chimney still remains. A concrete porch is present on the north side, made of a flat roof and ponderosa pine supports. There is a flagstone backdoor stoop. Windows on the house are primarily small single 1/1/1 and grouped 1/1/1 with hopper operations and wood surrounds. There are also single and grouped 1/1 windows with hopper operations and no surrounds. The lintels are pine and the sills are lug-style sandstone slabs. Both the exterior doors are panel types with fixed six-pane windows. Window and door lintels are made of three separate lintels bolted together in parallel with the bolt holes plugged with what appear to be hand-made wooden pegs. The concrete porch and walk on the north side of the house may cover flagstone. There are front yard and backyard stone walls and a stone grill near the southwest corner of the house.

Staff Residence, FW 703 (Resource 12). Resource 12 is rectangular in plan and measures 42'-2" x 37'-2". It is one of the three original buildings of the Sheep Lab. It is one-story high and includes two bedrooms, a full bath, a living room with fireplace, kitchen, pantry, dining area, and a one-quarter basement with outside access. The walls are made of irregular sandstone blocks, set with concrete in a random ashlar pattern. No external plaster or stucco is present. The roof was originally flat with protruding pine vigas along the short axis of the house. A post-construction, low-pitched gable roof now rests on the parapet. The peak of the new gabled roof is oriented with the long axis of the house. A parapet encircles the roof, and two canales are present on each of the south, east, and north sides. The canales are now partially plugged with wood. The vigas on the south and east elevations have been shortened and the holes plugged with stone. Two original stone chimneys still remain on opposing ends of the building. The kitchen and pantry have vigas that are set perpendicular to the other house vigas. The ceiling above the vigas is made with flush board.

Garage, FW 704 (Resource 13). Resource 13 is associated with Resource 12. It is rectangular and measures 22' x 12' feet. This building is also constructed in the plasterless variant of the Pueblo Revival style common to the other contributing buildings of the Historic District.

Staff Residence, FW 705 (Resource 14). This one-story building is rectangular in plan and measures 33'-4" x 25'-8". It contains two bedrooms, a full bath, a living room with fireplace, kitchen and a three-quarter basement with an outside entrance. The basement was originally only one-quarter excavated and was expanded at a later date. The exterior walls are composed of irregular sandstone masonry, laid in a random ashlar pattern. Two canales on both the north and south elevations of the house are now partially plugged with wood. A post-construction, low-pitched gable roof now rests on the parapet, and the vigas on the south elevation have been cut off and the holes plugged with stone. The peak of the gable roof is oriented with the long axis of the house. Two original stone chimneys still remain. A small flagstone porch is present on the north side with a parapeted roof set on two ponderosa supports. A wood and copper canal is present on the porch roof. Windows on the house are primarily small casements with no surrounds. Basement windows are small light styles with hopper operations, *sans* surrounds. The back door is a of panel variety with a fixed four-pane window, while the front door has a fixed six-pane window. There is a flagstone back door stoop and walk to the basement steps. The walk in the front of the house may cover flagstone. There are front yard and backyard stone walls. On the west front yard wall, there is a 1938 inscription in concrete on the top of the wall.

Garage, FW 706 (Resource 15). Resource 15 is a garage associated with Resource 14. It is rectangular in plan with dimensions of 22' x 12'. Its walls and roof are constructed in the Pueblo Revival style.

Staff Residence, FW 707 (Resource 16). This one-story residence is rectangular and measures 42'-2" x 29'-2". It contains two bedrooms, a full bath, a living room, kitchen, and a one-quarter basement with inside access. Walls are built of irregular sandstone blocks laid in concrete, in a random ashlar pattern. Like the other contributing buildings in the Historic District, no external plaster or stucco is present. Unlike the other contributing buildings, however, the roof of this staff residence was made with non-protruding milled lumber rafters set on the short axis of the house. The ceiling above the rafters is made with flush board. A post-construction low-pitched gable roof rests on the parapet. The peak of the gable is oriented with the long axis of the house. The original stone chimney is still present. A concrete porch on the northeast corner of the house covers a rock flagstone base. The porch roof supports are rectangular and made of concrete.

There is a concrete stoop at the back door. Windows are primarily casement operations set in a wood surround. Basement windows are of a hopper operation type. The back door is a panel type with a fixed three-pane window. The front door is a non-paneled door with three separate fixed single-pane windows. The lintels are concrete poured to resemble the forms found in the other structures on the site. The windows have sandstone lug sills. There are stone walls enclosing the front and back yards.

Garage, FW 708 (Resource 17). This one-car garage associated with Resource 16 is rectangular in plan with dimensions of 22' x 12'. The walls are built in the fashion of Resource 16. However, the stone used for the walls of Resource 17 is the purple and yellow banded variety employed in the Warehouse, FW 711 (Resource 6) and Staff Residence FW 734 (Resource 24). The presence of this banded sandstone may indicate a relatively late construction date, though still within the era of significance of the Historic District (USDI Indian Service 1957, 194?, n.d.). The roof is flat with non-protruding ponderosa pine vigas that are set on the short axis of the building. The ceiling above the vigas is made with flush board. A parapet is present with a single wood and copper canal on the south side. Entrance is gained through a standard garage door that is contemporaneous with the rest of the building. There is a large pine lintel over the door. The lintel is made of three separate lintels bolted together in parallel with the bolt holes plugged with what appear to be handmade wooden pegs.

A rectangular dugout-like addition is appended to the southwest corner of the garage. The dugout measures 10'-9" x 7'-2" and has a flat roof with vigas set on the same axis as the garage and covered with milled lumber, sheet metal, and a dirt cap. The walls are also built in the style of Resource 16. The north wall is learning outwards at the top, at an angle of 10-15 degrees and represents a safety hazard. There are no windows in the addition; a vent-like feature on the south side of the roof is present. Entry is through the north elevation via a vertical panel door with an 8" x 8" opening in the center.

Staff Residence, FW 718 (Resource 21). Resource 21 is a rhomboidal residential building, measuring 26' x 25'. It is one of a group of three employee residences located in Area B, north of the core complex in Area A (Photo 6). FW 718 is one-story in height and contains one bedroom, a living room, and a kitchen. Its masonry walls are constructed of irregular square-cornered sandstone laid in a random ashlar pattern, in concrete. They are not plastered externally. The foundation is concrete, and the roof is flat with non-protruding ponderosa pine vigas oriented along the short axis of the house. The ceiling above the vigas is made with flush board. A parapet

encircles the roof. Two canales are present on the south elevation, and one canal appears on the north elevation. There is a single stone chimney. A flagstone porch is present on the northeast corner at the front door, and a flagstone stoop is present on the southwest corner at the back door. Windows on the house are casement set directly against the stone wall. The lintels are hand-hewn pine, and the sills are lug style sandstone slabs. Window and door lintels are made of three separate lintels set together in parallel. The front door is of a panel variety with no lights, while the back door has a fixed four-pane window.

Staff Residence, FW 719 (Resource 22). Resource 22 is one of a group of three employee residences in Area B. This residence possesses the same dimensions, plan, materials, and construction specifications as Resource 21.

Staff Residence, FW 734 (Resource 24, Photo 7). The last of the three employee residences located in Area B, Resource 24 is rectangular in plan and measures 30' x 25'. The building is one-story in height and contains two bedrooms, a part bath, a living room, and kitchen. Its unplastered masonry walls are made of the purple- and blond-banded sandstone found in the blocked windows of the Well and Pump House FW 714 (Resource 3), the Warehouse, FW 711 (Resource 6), and staff Garage FW 708 (Resource 17). The sandstone occurs as irregular cut blocks, set in random ashlar pattern. The foundation is concrete. The roof is flat with non-protruding rafters set along the short axis of the house. Inside, the ceiling above the rafters is made with flush board. A parapet encircles the roof, and two canales are present on the west elevation. The canales are now gone but the parapet openings remain. Two stone chimneys still remain. A concrete walk extends from the east entryway (front door). Windows on the house are double-hung with wood surrounds. The lintels are hand-hewn pine, and the sills are concrete slip style made to look like lug style. Window and door lintels are made of three separate lintels set together in parallel; the one remaining door is a panel door with a fixed three-pane window. The concrete porch and walk on the north side of the house may cover flagstone.

Modifications to the structure include a 10' x 7'-6" framed wood addition added onto the north end of the west elevation. It is set on a concrete foundation that may cover a stoop at the west entryway (back door).

FW 734 is not present on the map, dated September, 194?, that is the source of the rest of the FW numbers used in this nomination (USDI Indian Service 194?). Loci FW 720 and FW 721, each identified as a "tent house," appear on that map, near the building's future site. It may be that

FW 734 was under construction at the time of the creation of that map, and that its builders/ future tenants were the inhabitants of the tent houses. It does not appear on an untitled map that is believed to have been drafted after 1939 but before 1943 (USDI Indian Service, n.d.; Linda Popelish, personal communication, April, 2002). FW 734 is shown on a map dated October, 1957 (USDI Indian Service 1957).

Non-Contributing Buildings

Shop (Resource 5). The Shop consists of a metal Quonset hut with no distinctive features or qualities. It is reported that the building was moved from Fort Wingate to the Sheep Lab (Copeland, 1988b). The date "1953" appears in the concrete floor of the structure, just outside the large doors in the building's north elevation. Based on this date, which falls outside of the era of significance of the Historic District, the Shop is considered to be non-contributing.

Barn (Resource 43). The current barn is rectangular and measures 102' x 33'. It is open to the south side and has four stalls, apparently for large livestock. It is constructed of ponderosa pine, milled lumber, and sheet metal set on a concrete pad. Two pieces of sheet metal are inscribed with the words, "Leupp Navajo Subdiv., Cnyon Diablo, Ariz." The age of this building is unclear, but it appears to be a replacement for the original Sheep Lab barn, FW 717, that was demolished in 1960 (USDI Indian Service 1957). It is therefore not a contributing resource to the Sheep Lab Historic District.

Examples of Contributing Structures

Culvert and Retaining Wall No.3 (Resource 20). This structure lies under the main road in the Historic District, between, and to the north of, the Laboratory-Office Building, FW 701 (Resource 1) and the Director's Residence, FW 702 (Resource 11). It consists of sandstone masonry walls, the appearance of which is very similar to the plasterless Pueblo Revival style variant that is the architectural signature of the District. These walls average about 16 inches in thickness. The culvert possesses wing walls at both its north and south ends. This culvert is similar in materials and appearance to the other two contributing culverts: Culvert and Retaining Wall No.1 (Resource 10) and Culvert and Retaining Wall No.2 (Resource 19) (Copeland 1988b).

Concentration of Four Check Dams (Resource 35). These erosion control structures lie along a 115' long stretch of drainage. Each is constructed of sandstone rocks and measures some 8' long by 1'-6" meters high. These are typical of the historic check dams located in the Historic District and were most likely constructed during the New Deal period (Copeland 1988b).

Reservoir No.1 (Resource 38). This is an intact and, as of 1988, semi-functioning water impoundment structure located between Areas A and B in the Historic District (Copeland 1988b).

Examples of Contributing Sites

Site 483

Water Ditch to Lambing Pens and Horse Corrals (Resource 40). This concrete-lined water ditch originated at the Well & Pump House No.1, FW 714 (Resource 3) and traveled, first north-northeast, then east-northeast, assumedly to empty into Resource 42, (Reservoir No.2), just west of Area B. It was used to provide water to horses and sheep that were kept in corrals along the northern half of its length, between areas A and B (Copeland 1988b). The sheep corrals are referred to in Sheep Lab records as "breeding and lambing pens." They are no longer standing, nor are the larger horse corrals that are known to have once occupied the southeastern end of the row of livestock enclosures (USDI Indian Service 1957). Remnants of the ditch are visible along its length and consist of V-shaped sections measuring 50.5" in length by 18.5" in height. The width of these sections expands from 18" at the base to 24" at the open top. The length of the visible ditch route is about 1,135' (Copeland 1988b).

Trash Concentration No.1 and Rock Concentration (Resource 44). This resource consists of a 3 x 5 meter coal "gob" pile, an ash dump measuring five meters in diameter, and a general scatter of refuse. The concentration may mark the location of the hogan shown on a ca. 1957 map of the Sheep Lab property (USDI Indian Service 1957). Visible artifacts include sanitary style food cans; steel flat-top and cone-top beverage cans; a Karo Syrup bottle with a Owens-Illinois Glass Co. maker's mark, dating to ca. 1930 – 1950: a clear bottle base with a Hazel-Atlas Glass Co. mark dating to ca. 1932 – 1953; 2.5" x 2.5" evaporated milk cans; and a KC baking powder can lid dating to 1939.

Trash Concentration No.6 (Resource 49). This is a dump area, measuring ca. two meters in diameter that includes sanitary style food cans, steel beverage cans. 2.5" x 2.5" evaporated milk cans, and a large cone top beverage can.

Site 1095. This sweathouse site consists of a depression in the ground, a pile of burned rock, and a hearth. All of these elements measure approximately two meters in diameter. They are associated with the Navajo workforce at the Sheep Lab (Copeland 1988b).

Site 1096. This is a rock ring with a central rock concentration of unknown use, cultural affiliation, or temporal provenience. It consists of unshaped sandstone blocks arranged in a two-meter diameter circle. A cluster of stones of the same material reposes in the center and measures about 0.75 meter in diameter. Both elements are one course high. There is no mortar present, and some of the rocks in the circular alignment do not touch. There is no apparent entryway. The surfaces of most of the rocks are rough and do not appear to be functional as seats or benches. Associated artifacts include a square building type nail and some historic stoneware potsherds. The site is situated on a ridge top with a good view of the alluvial valley through which the main Water Ditch (Resource 40) runs. This resource is classified as contributing, based on the assumption that future research will clarify its relationship to the rest of the Historic District (Copeland 1988b.)

Site 1378. This is a multicomponent site, the historic component of which dates to the era of significance of the Sheep Lab: 1935 – 1952. The historic component consists of the remains of two sweathouse areas, each containing a hearth a pile of burned rocks. Wooden remains of a sweathouse rest on top of a large boulder in the old drainage, on the eastern end of a prehistoric roomblock (see below). There is also a rock pile consisting of large sandstone rocks that may have been stockpiled for the building of hogans in the area. The sweathouse remains and rock pile are associated with the Navajo sheepmen who lived and worked at the Sheep Lab when it was operative (Popelish 1997, 1994c; Copeland 1988b).

Site 1378's prehistoric component consists of an Anasazi roomblock with associated potsherds, located on the southern aspect of an east-west trending ridge. Arroyos bound it on the east and west. Part of a wall has been exposed by arroyo cutting on the eastern end of the mound. The wall consists of compound style masonry with a thickness of about 0.4 meters. The roomblock is linear in shape with its long axis oriented in a northwest-southeast direction. It measures about 22.5 m. x 7.0 m. It appears to be two rooms wide and to contain about six rooms.

Associated ceramics include Red Mesa Black-on-White, Escavada Black-on-White, and corrugated ware. This is the only Anasazi site in the vicinity known to possess substantial architectural elements (Copeland 1988b). The presence of Red Mesa B/w may indicate a Pueblo II occupation, ca. 950 -- 1050 A.D.

Site 2010. This is another multicomponent site. The historic component consists of a historic trash scatter of glass and cans that is probably associated with Resource 18 (remains of Staff Residence FW 709, Garage FW 710, and Root Cellar FW 732). The artifacts date the scatter to ca. 1920 – 1950. The prehistoric component of this site consists of an artifact scatter of about 24 potsherds that are estimated to represent five to six vessels. Ceramic types present include mineral-painted black-on-white Cibola whitewares and corrugated utilityware. Most of the sherds occur in two concentrations, one located at the eastern end and the other at the western end of the site. The presence of Cibola Whiteware suggests a date of 950 – 1100 A.D., i.e., Pueblo II to early Pueblo III. Also present is a ten-centimeter-square piece of groundstone that may be a metate fragment. A possible rock wall could not be definitely assigned to either the prehistoric or historic component of the site. This site may relate to the prehistoric component of Site 1378, located about 200 meters to the north (Popelish 1994c).

Examples of Non-Contributing Structures

The following are descriptions of recent noncontributing resources of the Historic District. They have little impact on the physical and historic integrity of the District, were never recorded in heritage resource surveys, and, because of their age, are considered noncontributing to the District.

Recent Water Diversion Structures (Resource 52). These structures are located in and near Site 1378. They were constructed by Mt. Taylor Ranger District personnel in 1997 to ameliorate water erosion damage to that archaeological site. The project was supervised by Linda Popelish, District Archeologist. The run-off channel in the arroyo that bounds the prehistoric rubble mound on the east (called the "eastern arroyo" on the site map) was rerouted to avoid the exposed prehistoric masonry wall and associated roomblock along its western bank. This was accomplished by the creation of five new structures. A rock dam of approximately 16' in length was built about 40' upstream (northeast) of the exposed pueblo wall, in mid-channel. This structure serves to divert the run-off water into a new channel that was dug adjacent to the east of the old channel. Immediately southwest of the dam, and abutting its southern end, an area

measuring approximately 30' in length was paved with a single layer of unmortared rocks. This paving extends to the southwest, to a point across the old channel from the exposed wall. Its purpose is to keep run-off water on course in the new channel. In addition to these rock structures, three silt traps were set up at strategic points around the site. These traps consist of low (2' high) fence-like lengths of tough black plastic sheeting nailed to wooden stakes that are driven into the ground. The lengths measure from about 9' to 10'. Their function is to slow run-off water and to accumulate the silt it carries in order to stabilize the banks and bottoms of the arroyos in the vicinity of the site. One of these traps is situated across the old arroyo channel immediately to the northeast of the exposed prehistoric wall. Another is positioned in mid-channel, about 39' southwest of this wall. This trap is aligned south-southwest and prevents the outflow of the re-routed water from eroding the western bank of the arroyo. The third silt trap is in the arroyo that bounds the roomblock on the west (called the "western arroyo" on the project map). It runs from the northwest to the southeast, across the channel, and accumulates silt to stabilize the western end of the rubble mound (Popelish 1997).

Recent Culvert (Resource 53). This is a north-south oriented culvert consisting of an approximately 20' long and 2' diameter corrugated steel drainage pipe. It lies buried under about one foot of dirt under the surface of a bladed, bankless one-lane dirt road, located about 82' west of the Laboratory-Office Building, FW 701 (Resource 1). This road is an informal extension of the banked two-lane dirt road that runs along the north elevation of the building and forms the main access road into the Sheep Lab. The banked portion of this main road ends at the northwestern corner of the Laboratory-Office Building, where an informally constructed spur runs south for about 230', to the area of the Warehouse, FW 711 (Resource 6) and the Shop, or Quonset Hut (Resource 5). Another informal extension continues west for about 66', where it forks. The left fork veers to the south-southwest, running uphill nearly parallel to the abovementioned spur. The right fork continues its westerly course for about 16 more feet, where it crosses the culvert. The culvert receives the intermittent waters of a small arroyo that drains a north-facing slope. The arroyo is about 2.5' deep and 6' wide on the south side of the road, where it enters the culvert. Where it exits the culvert, some 20' farther down slope, on the north side of the road, it flattens out into a ca. 1' deep drainage area with indistinct banks. It coalesces into an abrupt ca. 3' channel approximately 82' farther downhill. Recent brush clippings and scrap metal have been wedged into the brink of this channel to impede further erosion.

Berm (Resource 54). Another, less conspicuous, water control structure consists of a 115' long earthen berm (Resource 53) situated on the lip of Milk Ranch Canyon, about 350' west of

Resource 1. Its long axis runs perpendicular (East/West) to the canyon. The berm averages about 3' in height and about 12' in width. Its sides are sloping and rounded in cross section, indicating that it has been subject to years of erosion. It appears to have been constructed with earth moving equipment, with the intent of channeling sheetwash running northward off the same slope drained by the arroyo bridged by Resource 53, westward into the canyon and creek. No datable artifacts were observed in association with this structure.

TABLE 1. Contributing Resources, Southwestern Range and Sheep Breeding Laboratory Historic District

FS Site No.	Res. No.	Description	Resource Type	FS No.	Photo No.
483	1	Laboratory-Office Building	Building	FW 701	3
	2	Garage and Carport	Building	FW 713	--
	3	Well & Pump House No.1	Structure	FW 714	--
	4	Water Tank	Structure	FW 715	--
	6	Warehouse	Building	FW 711	4
	10	Culvert and Retaining Wall No.1	Structure	--	--
	11	Director's Residence	Building	FW702	5
	12	Staff Residence	Building	FW 703	--
	13	Garage	Building	FW 704	--
	14	Staff Residence	Building	FW 705	--
	15	Garage	Building	FW 706	--
	16	Staff Residence	Building	FW 707	--
	17	Garage and Dugout	Building	FW 708	--
	18	Remains of Staff Residence	Site	FW 709	--
		Remains of Garage		FW 710	--
		Remains of Root Cellar		FW 732	--
	19	Culvert and Retaining Wall No.2	Structure	--	--
	20	Culvert and Retaining Wall No.3	Structure	--	--
	21	Staff Residence	Building	FW 718	--
	22	Staff Residence	Building	FW 719	--
	23	Privy (Two-Hole)	Building	FW 722	--

TABLE 1, con't. Contributing Resources of the Southwestern Range and Sheep Breeding Laboratory Historic District

FS Site No.	Res. No.	Description	Resource Type	FS No.	Photo No.
483	24	Staff Residence	Building	FW 734	7
	25	Dugout	Structure	--	8
	26	Oven	Structure	--	9
	27	Possible Hogan Remains No.1	Site	--	--
	28	Rock Alignments (Foundation)	Site	--	--
	29	Rubble Pile No.1	Site	--	--
	30	Sweathouse Remains (Burned & Unburned Rock)	Site	--	--
	31	Possible Hogan Remains No.2	Site	--	10
	32	Possible Hogan Remains No.3	Site	--	--
	33	Rubble Pile No.2	Site	--	--
	34	Check Dam No.1	Structure	--	--
	35	Concentration of Four Check Dams (No.2-5)	Structure	--	--
	36	Check Dam No.6	Structure	--	--
	37	Bridge	Structure	--	--
	38	Reservoir No.1	Structure	--	--
	39	Concrete Pad	Site	--	--
	40	Water Ditch to Lambing Pens & Horse Corrals	Structure	--	--
	41	Check Dam No.7	Structure	--	--
	42	Reservoir No.2	Structure	--	--
	44	Trash Concentration No.1 & Possible Hogan Remains	Site	--	--
	45	Trash Concentration No.2	Site	--	--
	46	Trash Concentration No.3	Site	--	--
	47	Trash Concentration No.4 & Rock Concentration	Site	--	--
	48	Trash Concentration No.5	Site	--	--
	49	Trash Concentration No.6	Site	--	--
	51	Well and Pump House No.2	Structure	--	--

TABLE 1, con't. Contributing Resources of the Southwestern Range and Sheep Breeding Laboratory Historic District

FS Site No.	Res. No.	Description	Resource Type	FS No.	Photo No.
1095	--	Sweathouse Remains No.2 (Depression, Burned Rock, Hearth) [a]	Site	--	--
1096	--	Circular Rock Alignment [b]	Site	--	--
1378	--	Sweathouse Remains No.3 (Burned Rock, Hearths)	Site	--	--
2010	--	Trash Concentration No.7	Site	--	--

a. This resource was found ineligible for the National Register in Forest Service Report 1988-03-081 and the SHPO concurred. It is now regarded as contributing to the eligibility of the Historic District on the basis of its association with important developments in Indian New Deal programs and its potential to contribute information on the Indian New Deal and Navajo heritage (Criteria A and D).

b. The cultural and temporal provenience of this resource is unclear. It is classified as contributing to the significance of the Sheep Lab on the strength of its proximity to remains of contributing rock structures.

TABLE 2. Noncontributing Resources of the Southwestern Range and Sheep Breeding Laboratory Historic District

FS Site No.	Res. No.	Description	Resource Type	FS No.	Photo No.
483	5	Shop (Quonset Hut)	Building	--	--
	43	Barn [a]	Building	--	--
	52	Recent Water Diversion Strs. at Site 1378	Structure	--	--
	53	Recent Culvert	Structure	--	--
	54	Berm	Structure	--	--

a. The existing barn replaces the historic barn, FW 717, which was demolished in 1960 (USDI 1957).

TABLE 3. Specific Features of Contributing Archaeological Sites

FS Site No.	Res. No.	Description	FS No.	Photo No.
483	18	Remains of Staff Residence	FW 709	--
		Remains of Garage	FW 710	--
		Remains of Root Cellar	FW 732	--
	27	Possible Hogan Remains No.1	--	10
	28	Rock Alignments (Foundation)	--	--
	29	Rubble Pile No.1	--	--
	30	Sweathouse Remains (Burned & Unburned Rock)	--	
	31	Possible Hogan Remains No.2	--	--
	32	Possible Hogan Remains No.3	--	--
	33	Rubble Pile No.2	--	--
	39	Concrete Pad	--	--
	40	Water Ditch to Lambing Pens & Horse Corrals	--	
	44	Trash Concentration No.1 & Possible Hogan Remains	--	
	45	Trash Concentration No.2	--	--
	46	Trash Concentration No.3	--	--
	47	Trash Concentration No.4 & Rock Concentration	--	
	48	Trash Concentration No.5	--	--
	49	Trash Concentration No.6	--	--
1095	--	Sweathouse Remains No.2	--	--
1096	--	Circular Rock Alignment	--	--
1378	--	Sweathouse Remains No.3	--	--
2010	--	Trash Concentration No.7	--	--

INTEGRITY

The Southwestern Range and Sheep Breeding Laboratory Historic District possesses integrity of location, design, setting, materials, workmanship, feeling, and association. The most significant post-construction alteration to the buildings has been the construction of low-pitched gable roofs on the original parapeted flat roofs of the Staff Residences in Area A, i.e., the Director's Residence, FW 702 (Resource 11), FW 703 (Resource 12), FW 705 (Resource 14), and FW 707 (Resource 16). Some exterior vigas have been trimmed on these buildings and on the Laboratory-Office Building, FW 701 (Resource 1), assumedly because these elements were rotting (Copeland 1988a:18). In addition, gutters and downspouts were added to, and some of the original canales were removed from, these buildings. The canales on Staff Residence FW 734 (Resource 24), in Area B, are also missing. The roof alterations, using Marine surplus materials bought and transported from California, apparently took place sometime between 1952 and 1964, to address water leaks. The only other major changes have been the removal of the boiler room chimney and the installation of the radio antenna on the Laboratory-Office Building, FW 701 (Resource 1). The Shop, or Quonset hut (Resource 5) was moved to the District in 1953. It is located beyond the view of visitors to the facility and causes only minimal distraction to the continuity of design.

Recent rehabilitation activities involving the conversion of the darkroom to a bathroom and the installation of a furnace system in the Laboratory-Office Building, FW 701 (Resource 1) have followed the Secretary of Interior's Standards and Guidelines. In the late 1990s, when the roof was repaired, the canales on the Laboratory-Office Building and on Garage FW 713 (Resource 2) were rebuilt to the original specifications. In fact, the buildings and the surroundings of the Southwestern Range and Sheep Breeding Laboratory Historic District continue to convey the ideal of integration of federal programs with Navajo tradition that Collier sought to promote in the Lab program during his tenure as BIA Commissioner.

It must be emphasized that all of the resources in the Historic District have significant information potential. Any action with the potential to alter them – e.g., structural repair, painting, thorough cleaning – should be considered to be an undertaking and be subject to the Section 106 process.

Figure 7-1. Sketch Map of the Southwestern Range and Sheep Breeding Laboratory Historic District (see enclosed).

STATEMENT OF SIGNIFICANCE

SUMMARY

The resources of the Southwestern Range and Sheep Breeding Laboratory Historic District (Sheep Lab Historic District) comprise a well-preserved cultural landscape, with an intact complex of buildings and a number of water management and Navajo habitation resources, that reflect the philosophy and social intent of this New Deal program to improve sheep breeding and wool production, and to address the problems of overgrazing on Navajo land. The District is eligible for the National Register of Historical Places under Criterion A for its association with the 1930s Indian New Deal programs of BIA Commissioner John Collier's administration. The District is also eligible under Criterion D because of its archeological remains related to the Sheep Lab operations and Navajo historic occupation of the area during the period from 1935 to 1952.

PREVIOUS RESEARCH

Previous accounts of the Historic District and vicinity have focused on the Native American and U.S. military occupation of historic Fort Wingate. Linda Popelish (1994b) reviews the evidence for early Navajo and Zuni occupation and the conflicts among Native American groups, the Spanish, and the U.S. military, that occurred in and around Bear Spring and the Historic District. Carolyn Daniel (1997) describes the historic military and Navajo occupation of the Fort Wingate Depot Activity, a 20,816-acre area adjacent to the Forest Service property on which the Historic District lies. Ellen Threinen's study, *The Navajos and the BIA: A Study of Government Buildings on the Navajo Reservation* (1981), describes the Indian New Deal context for the Southwestern Range and Sheep Breeding Laboratory project, although she does not directly mention the Sheep Lab. Sidwell, Ruttle, and Ray (1970) summarize the research projects conducted at the Lab and James M. Copeland (1988a, 1988b) has reported specifically on the history of the Sheep Lab. Copeland draws on the work of Donald L. Parman (1976) to describe the founding of the Lab and its programs. Copeland indicates that most of the archival material on the Sheep Lab has been widely dispersed and is difficult to trace. The Wheelwright Museum of the American Indian in Santa Fe includes Sheep Lab rugs, photographs, yarn samples, test weavings, and dye samples in its Fort Wingate Collection (Copeland 1988b:20). Some archival material relating to the Lab, including the original plans, historic photos, and oral history tapes and transcriptions, are located at the Cibola National Forest Mt. Taylor Ranger District in Grants, NM. The Forest Service has conducted six heritage resource surveys of a 1,467-acre area that

includes the Sheep Lab Historic District (Tainter 1978, 1983, J. Copeland 1988a, 1988b, Popelish 1994b, 1994c). A number of Forest Service reports detail maintenance activity within the District area (Cartledge 1995, Nicoll 1994, Olson 1989, Popelish 1988, 1990, 1991, 1992a, 1994a, 1995a, 1995b).

AREA HISTORY

The area surrounding Bear Spring that includes the Sheep Lab Historic District became a major area for Navajo settlement in the eighteenth century. The spring was one of a few dependable water sources in the region. Historical records date use of the Bear Spring area by the Navajo from at least as early as 1786, and possibly as early as 1700. Bear Spring was sacred to the Navajo, and was called "Shashbitoo" (or "Shush be toh") because Navajo war parties visiting the spring often saw bear there. There is evidence of Navajo raids on Zuni farmsteads in the area around the spring. In the late eighteenth century Navajo groups moved south from Dinetah in northern New Mexico as a response to a drought in 1748, Ute raids in the 1750s, and the adoption of a herding economy. In 1786 the Navajo were grouped into five divisions, one of which has been identified as Ojo del Oso, or "Bear Spring" (Popelish 1994b:8-9).

During the early nineteenth century the Bear Spring area became the site of conflicts between the Navajo and the Utes, Spanish, and U.S. military. The spring also served as a site for peace negotiations. Conflicts and negotiations at Bear Spring are specifically mentioned in the historic record during 1821, 1836-37, 1846, 1851, 1853, 1855, 1858, and 1861. In the 1850s the Rio Puerco Valley began to be used as a major transportation route by the U.S. military as it facilitated the U.S. expansion into the west. Bear Spring became a stopover point for troops between Fort Defiance and the Rio Grande Valley (Popelish 1994b:9).

Actual U. S. military occupation of Bear Spring began in 1860 with the establishment of Fort Fauntleroy. In 1861 it is reported that about 500 Navajos settled in the immediate area of the fort, drawing rations after a series of treaty negotiations. The "Fort Fauntleroy Massacre" of 12 Navajo, including women and children, occurred on a ration day there. Apparently 50 Navajo families continued to live in the area after the tragedy. In 1861 the name of the fort was changed to Fort Lyon, as Colonel Fauntleroy had resigned his commission to join the Confederate Army. Fort Lyon was abandoned in late 1861 when the garrison transferred to Fort Craig in the Rio Grande Valley in response to Confederate Army attacks on the New Mexico Territory. By 1864 the U. S. military had forcibly removed the Navajo from their territory throughout Arizona and New Mexico and incarcerated them in Fort Sumner in eastern New Mexico (Popelish 1994b:9).

In 1868 the fort, renamed Fort Wingate, was reestablished to help with the resettlement of the Navajo returning from Fort Sumner (Daniel 1997:206, 217). The first fort by that name had been established on October 22, 1862, near what is now the town of San Rafael, south of Grants. The old Fort Wingate was abandoned shortly after the Navajos' removal to Fort Sumner. Soon after, Fort Lyon reopened as the "new" Fort Wingate (Perlman 1997:12). In 1868, Navajo resettlement operations shifted to Fort Defiance further west, and (the new) Fort Wingate became a base of operations for the military campaign against the southern Apaches. Navajos who settled in the area were employed as scouts and laborers at the fort (Daniel 1997:206, 217). Navajo settlement sites dating from the first half of the nineteenth century to the mid-twentieth century have been located in the immediate area of the Sheep Lab Historic District (Copeland, 1988b:9-15, 20-22, 25; Popelish 1994b:13-15). Military occupation of Fort Wingate continued until 1918. Since World War I Fort Wingate has served as a site for munitions storage by the U.S. Army and as the location of elementary and secondary schools.

CHRONOLOGICAL HISTORY OF THE SOUTHWESTERN RANGE AND SHEEP BREEDING LABORATORY

The Southwestern Range and Sheep Breeding Laboratory was a joint venture between the Bureau of Animal Husbandry (BUAH) and the Soil Conservation Service (SCS) of the U. S. Department of Agriculture (USDA), and the Bureau of Indian Affairs (BIA) of the Department of Interior. During the New Deal, Bureau of Indian Affairs Commissioner John Collier instituted an administrative policy of self-determination and preservation of Navajo culture that resulted in the development of day schools, land reclamation, and political institutions. In the Sheep Lab program, Collier and Department of Agriculture Secretary Henry A. Wallace sought to improve Navajo rug and blanket weaving and address the problems of overgrazing of Navajo land (Philp 1977:123). The Navajo market economy that had developed since the early 1900s in Arizona and New Mexico was dependent on wool, lambs, and rugs.

With the Depression, wool and lamb prices dropped. Unsold livestock was retained in the Navajo herds and contributed to overgrazing. In the severe winter of 1931-1932, much of the Navajo livestock starved. Moreover, a 1934 study conducted by Robert Youngblood, the principal agricultural economist in the USDA's Office of Experimental Stations, found that the wool of the Navajo sheep had lost favorable qualities for weaving and, consequently, the existence of the Navajo rug weaving industry was threatened. Increased crossing of the Navajo *churro* sheep with other breeds – begun in the late 1800s -- had produced a short staple wool that

was too kinky and oily to wash, card, and spin by the hand methods used by Navajo weavers. The short staple wool also produced a bulky, uneven rug compared to those made from the long staple wool of the churro sheep (Parman 1976:22-24, 127).

In 1935, Commissioner Collier signed a cooperative agreement with the Bureau of Animal Husbandry and the Soil Conservation Service for the establishment of the Southwestern Range and Sheep Breeding Laboratory. The Bureau of Indian Affairs provided $75,000 for the facility, and the Bureau of Animal Husbandry provided the staff for its operation (Parman 1976: 128). Though no direct documentation for the Sheep Lab has been found, it appears that the building funds, like funds for other Navajo New Deal building projects sponsored by the Bureau of Indian Affairs, were allotted to the agency by the Public Works Administration (Threinen 1981:63).

The design of the Sheep Lab facilities reflects Collier's intention to utilize Indian architectural traditions within the Navajo New Deal programs. According to Collier, Indian Service architecture predating 1930 was "a conglomeration of nondescript masses of wood, brick, stone, or other building materials, totally devoid of architectural feeling" (Hyer 1995:189-196). Collier's goals for the design of Navajo New Deal facilities were (1) to adopt elements of native architectural design, (2) to integrate the design with the surrounding landscape, (3) to use local building materials, (4) to maintain simplicity, and (5) to employ local Indians (Threinen 1981:66).

Collier selected the architectural firm of Mayers, Murray, and Phillip to design the Sheep Lab. Although Threinen reports that the reasons for the choice of this particular firm are not known (1981:66), some assumptions may be made in this regard. First, the firm was the successor to the firm of Bertram Goodhue, the architect who designed the town of Tyrone, New Mexico. In that endeavor, Goodhue employed the Mission Revival style (aka Spanish Colonial Revival style), which is similar in appearance to the Pueblo Revival style (Iowa 1985:82-86; Blumenson 1981:8-9.) Second, Mayers, Murray, and Phillip had just been chosen to design 46 day schools on the Navajo Reservation, as well as the new tribal government buildings in Window Rock. That project overlapped chronologically with the Sheep Lab enterprise and employed much the same architectural style and manners of construction (Threinen 1981:63 *et seq.*).

The architectural design developed by Mayers, Murray, and Phillip for the day school, Window Rock and Sheep Lab projects represented an application of the National Park Service

(NPS) Rustic aesthetic in an effort to conform to regional stylistic and cultural norms. Although some hogan-like structures were built for the day school project, the majority of the buildings were constructed in a plasterless variant of the Pueblo Revival style, with parapeted flat roofs, projecting log beams (*vigas*), wood drainage spouts (*canales*), and exposed wood lintels over the windows (Threinen 1981:63-66). The origin and evolution of this stylistic variant is germane to the history and significance of the Historic District and is addressed in the discussion of Criterion A, below. All of the contributing buildings and structures at the Sheep Lab conform to this style. Their walls are exposed dressed sandstone blocks, obtained from two local quarry sites, Forest Service sites AR-03-03-02-2012 and AR-03-03-02-2031 (Popelish 1994c:6 and fig.4; Copeland 1988b:17).

The similarity in materials and design between the New Deal day schools and tribal administrative buildings designed by Mayers, Murray, and Phillip on the Navajo reservation and the Sheep Lab suggests that the latter was built in a manner similar to that of the first two undertakings. It is likely, then, that the Sheep Lab was built by crews of unskilled Navajo laborers headed by a skilled, Anglo-American foreman assisted by local interpreters. Plumbers and electricians were brought in when needed (Threinen 1981:66-67). Employment of local Native labor is indicated by a report of one Charlie Marinito of Iynabito, who helped to "put up some of rock buildings at the lab" (Popelish 1992b).

The guiding purpose of the Sheep Lab research program was the organized study of wool technology and sheep breeding. Its four main goals were: (1) the determination of the type or types of sheep that were best adapted to the environment of the Navajo Reservation and the needs of its people; (2) the development of this type or types of sheep; (3) the pursuit of range improvement and flock management experiments to determine management practices for the maximum return on the sheep; and (4) the education of Navajo sheep producers on better range and flock management and breeding programs and procedures (Sidwell *et al.* 1970:1). Research and activities at the Lab concentrated on the first two goals prior to 1942. Once the breeding population was established, later Laboratory work centered upon the realization of the latter two goals. To this end, the Lab held annual field days in which Navajo herders participated. Some of these fetes included speakers of political importance.

The first director of the fledgling Sheep Lab was James M. Cooper. He served in that capacity from 1935 to 1942. It was under his guidance that the foundation flock of churro breeding sheep was established and that the initial outcrossing experiments with other sheep breeds were conducted. Cooper's first challenge was to locate and acquire enough unmixed

Navajo churro breeding stock for the Lab's experiments. This proved to be difficult. By the 1930's, most of the tribe's sheep had been extensively and indiscriminately interbred with the commercial, merino-type breeds that produced wool unsuited to hand weaving. Nevertheless, Cooper's staff succeeded in locating pockets of pure churro sheep in isolated areas of the Navajo reservation, such as Navajo Mountain and Black Mesa. In a letter to Cooper dated October 9, 1935, Carl Beck, "Stockman in Charge," reported: "To date we have 714 head of native Navajo ewes and 35 rams for the laboratory" (Dodge papers: Folder FY 1936). By 1936, a foundation herd of some 800 ewes and 20 rams had been purchased (McNeal 1992).

Descendants of the original sheep introduced into the Southwest by the Spanish conquistadors and colonists, the churro had become well adapted to the rigorous conditions of the region during its 400-year sojourn there. Although possessed of an undesirable hairy outercoat, its long-stapled, low-grease wool was excellent for working on the handloom. Researchers at the Sheep Lab wanted to develop a strain of sheep that retained the wool's desirable characteristics, plus the churro's hardiness and good mothering traits that minimized lamb loss (Photo 11). At the same time they wanted to overcome the breed's problems of late maturity, low lamb weight at weaning, and the unstable fleece color and fiber content (Sidwell *et al.* 1970:6).

Winter of 1936 saw the initiation of two breeding programs at the Lab. The first was designed to maintain an improved but pure churro breed of sheep. Toward this end, animal breeders effected

> . . . repeated "in-line" or reciprocal matings of the native stock. The offspring of each new generation after 1936 were carefully examined for [desirable] traits . . . and animals bearing [those traits] . . . were then retained for subsequent breeding. (McNeal 1992.)

The second breeding program entailed the breeding of churro ewes to rams of the Corriedale and Romney breeds. These breeds were chosen for outcrossing because they produced coarse, long-stapled wool that was "fairly suitable" for hand weaving. They also possessed desirable traits, i.e., larger body weight and early maturation that the churro lacked. The next season's breeding crossed desirable churro/Corriedale offspring with churro/Romney offspring, resulting in a sheep that was one-half churro, one-quarter Corriedale, and one-quarter Romney. This new strain was reciprocally bred until 1942, in order to "strengthen and 'fix' desirable

traits" (McNeal 1992). A document entitled "Tentative Breeding Plan for 1940-41" is revealing of the goals of the breeding program of that time:

> The project at this station [the Sheep Lab] lays more stress on the wool phase of the breeding program than it does on the mutton phase. It is felt, therefore, that more attention should be paid to the improvement of the fleece type of the animals in the breeding flock. All possible improvement will be made in conformation, but not at the expense of wool. (Dodge papers: Folder FY 1941).

The new strain of crossbred churro sheep produced fleeces with a uniform texture and color valuable for the commercial market. Breeding was also successful in removing the hair-like outercoat from the Navajo stock. Other problems had yet to be overcome. The wool was too fine for home rug weaving, fleece weight had not increased, and the weight of lambs at weaning had not been improved (Sidwell *et al.* 1970:6).

From its inception through the late 1940's (and perhaps later), the Lab employed from one to two Navajo women weavers to weave sample rugs of the various grades of wool produced by the experimental flocks. They worked in the main Laboratory building (FW 701, Resource 1), where their rugs were on public display (Brooks 1992). Daisy Tauglechee, later a renowned weaver, began her career at the Sheep Lab (Popelish 1992b). To assess the durability of the sample rugs, the Sheep Lab devised a clever and newsworthy field test:

> Navajo rugs of the future will owe a debt to the hurrying feet of the thousands of Interior Department employees who eat their lunches in the cafeteria of the new Interior Building in Washington [D.C.] . . . sections of Navajo rugs, produced under varying conditions and containing wool of varying degrees of quality . . . will be placed on the floor of the cafeteria where the traffic is heaviest. In this way the experts [at the Sheep Lab] who are working to improve the quality of Navajo wool and Navajo rugs, believe they can obtain the equivalent of years of hard wear in a much shorter space of time. (USDI Indian Service 1939.)

In 1942 Cooper relinquished the reins of command to James O. Grandstaff. Grandstaff would head the facility until 1952. Under this new leadership, and to mitigate the weaknesses still present in the Corriedale-Romney outcrosses, the Sheep Lab began breeding ewes of that strain with Lincoln and Cotswold rams. The resulting offspring contained only one-quarter churro blood. To remedy this, ". . . additional crosses of Navajo [i.e., churro] and Columbia and

Navajo and Romney were made, and these crossbred sheep were reciprocally mated to the Lincoln and Cotswold cross sheep" (Sidwell *et al.* 1970:6).

The resulting creature was one-eighth Cotswold, one-eighth Columbia, one-eighth Lincoln, one-sixteenth Corriedale, three-sixteenths Romney, and three-eighths churro. Once this eclectic strain was established, assumedly in the 1940's, it was reciprocally bred at the Lab until at least 1962. According to statistics for that year, this sheep weighed an average of 10 to 12 pounds more than the Lab's improved purebred churro, while producing a fleece that was only slightly inferior to the churro's with regard to suitability for hand weaving (Sidwell *et al.* 1970:6).

The Twelfth Annual Report of the Sheep Lab includes a section entitled "Some of the Important Accomplishments of the Laboratory during its First 12 Years, 1936-1948." Seventeen items are listed, e.g.,

2. A method has been developed for quickly evaluating fleece quality of Navajo sheep from small samples.
4. . . . the type of wool suitable for hand weaving and with good market value has been determined.
10. Average grease fleece weight of Navajo ewes at yearling age has been increased from 3.8 pounds to about 6.3 pounds . . .
16. Crossbreeding of Navajo sheep has resulted in marked improvement in body type and conformation of the offspring at market age and maturity, without appreciable loss in fertility of breeding animals or livability of lambs (Dodge papers, Folder FY 1949.)

Ironically, while the Sheep Lab personnel were striving to produce wool for handloom production, the Navajo rug weaving cottage industry was declining. By late 1948, Navajo sheep producers were selling an estimated 90 percent of their wool on the commercial market. In response to this, Grandstaff's researchers began, in 1949, to develop a desert-hardy, fine-wool sheep that would produce a "good quality feeder lamb" (Sidwell *et al.* 1970:6.), analogous to a dual purpose cattle breed such as the Shorthorn. Under this breeding program, 120 of the three-eighths churro blood ewes were divided into four groups of 30 sheep each. Two of these groups were mated to Targhee rams, one to a Merino ram, and one to a Debouillet ram. A group of 30 churro ewes was mated to a Rambouillet ram. This regimen was repeated the next year. Subsequently:

Only Targhee rams were used on the crossbred ewes after 1950. The offspring of all these matings were then mated *inter se*. By 1956, sufficient numbers of crossbred ewes and rams were accumulated in this line so that the Targhee matings were discontinued, and the line was perpetuated by the *inter se* mating of the crossbred offspring. (Sidwell *et al.* 1970:6-7.)

By the late 1950s, the Sheep Lab flock numbered some 1,500 to1,800 ewes, rams, and replacement ewe lambs. From the above information on its breeding programs, it may be deduced that this population consisted of four sub-populations: the improved churro stock, the three-eights churro coarse wool crossbreds, the commercial-grade fine wool and meat Targhee crossbreds, and a four-group flock for a public education program on selective breeding, described below.

As noted earlier, the years after 1942 marked a change in emphasis in the pursuit of the Sheep Lab's goals. While its breeding programs were maintained, attention was focused on the formulation of improved range management practices and public (i.e., Navajo) education. The Soil Conservation Service, the third partner in the Sheep Lab undertaking, conducted studies on the carrying capacity of the ranges used for the Sheep Lab projects and constructed the reservoirs, dams, and wells on the facility to provide water for the sheep. The SCS was also involved in the reseeding of the range areas used for grazing the Lab's flocks. In addition, the Lab's importance as a source for good hand-weaving wool for Navajo weavers increased, as the tribe's sheep production became more and more oriented toward the commercial market. This phenomenon is revealed in the following figures for hand weaving quality wool sold by the Lab to individual Indians, to the Navajo Arts and Crafts Guild and other organizations, and to Indian traders during the years of 1949-1952:

- 1949-1950: 3443 pounds of grease wool and 288 pounds of scoured wool.
- 1950-1951: 4394 pounds of grease wool and 2224 pounds of scoured wool.
- 1951-1952: 13,424.8 pounds of grease wool, 1602.5 pounds of scoured wool, and 5171 pounds of "wool top." (Dodge papers: Folder FY 1952: Annual Report, Fiscal Year 1952).

In 1952, Stanley L. Smith became the director of the Sheep Lab, a position he would hold until 1964. He succeeded John Storr, who served as Interim Director (Popelish 1992b) after Grandstaff's resignation to accept a position with the Office of Experiment Stations in Washington, D.C., in March of that year (Annual Report, Fiscal Year 1952, Dodge papers,

Folder FY 1952). Smith's ascension to power marked the focusing of the Lab's attention on the development of education programs to impart the findings of its research to its Navajo public. The first program undertaken under this aegis concentrated on teaching the importance of selective breeding in the improvement of their flocks. During the winter of 1952-53, Lab personnel traded 400 of their coarse wool (i.e., improved churro) ewes for "average reservation ewes." These ewes were divided into four equal groups (Sidwell *et al.* 1970:8-9).

> Group 1 ewes were mated to ten Targhee rams obtained from the United States Sheep Experiment Station, Dubois, Idaho. Group 2 ewes were mated to 10 Rambouillet rams obtained from the Navajo tribal ram herd . . . . Group 3 ewes were mated to 10 coarse-wooled rams produced in the weaving-wool flock maintained at the laboratory. Group 4 ewes were mated to average reservation rams and served as a control group . . . Ewe lambs from groups 1, 2, and 3 were saved on the basis of their individual merit. But in group 4, they were selected at random. Only in group 4 were any ram lambs saved, and they also were selected at random. In groups 1, 2, and 3, new rams of the specified breeding were used at least every two years. (Sidwell *et al.* 1970:9)

This program continued at least until 1962, as statistics for that year reveal the overall inferiority of the randomly selected Group 4 sheep in comparison to the other three, selectively bred, groups (Sidwell *et al.* 1970:9).

Results of this and other research, including SCS range management studies, were imparted to the public by means of periodic "field days" and workshops. The annual "Sheep Lab Day" evolved into a real fete that included speeches by politicians and animal husbandry experts from far and wide. Although most of the attendees were Navajo, Pueblo Indians from Acoma, Zuni, Laguna, and perhaps other pueblos also participated. The Lab's unique research also attracted national and international interest. Visitors and researchers came from far and wide to visit, including a party of Arabian nobility in October, 1943 (Dodge papers: FY 1944).

DAILY ACTIVITIES AND PERSONNEL OF THE LAB

The annual cycle of Sheep Lab breeding activities involved: (1) weaning and shipping lambs in October and November; (2) semen testing rams in November; (3) transporting ewes from the El Morro range to the Sheep Lab after weaning; (4) grouping and branding sheep according to research plans; (5) introducing rams to ewe groups for breeding about December 1;

(6) turning ewes out to pasture in mid-January after the 45-day breeding season; (7) shearing sheep in April (Photo 12); (8) confining ewes in pens for lambing in May and identifying ewe-lamb pairs; (9) transporting lambs and ewes to the El Morro range in early summer; and (10) holding a field day at the Sheep Lab in the spring as a joint USDA-BIA-New Mexico State University Extension activity (Copeland 1988b:19). In the laboratory, after cleaning (see Photo 13), the physical characteristics of the wool were analyzed, using optical equipment developed at the Sheep Lab to examine magnified images of wool cross-sections. As discussed above, after the wool's characteristics had been identified, Navajo weavers wove rugs and sample textiles (Parman 1976:129).

No personnel records for the first decade of the Sheep Lab's operation have been located to date. The 10th, 11th, and 12th annual reports each contain a roster of employees. In the 10th report (FY 1946), certain positions are identified as "Indian" jobs, as indicated by the abbreviation "Ind." in their titles. The designation does not appear in the later reports. Some examples from the personnel rosters follow:

10th Annual Report, FY 1946 (Dodge papers: FY 1946)

- Wolf, Harold W., Animal Fiber Tech, P-3 (duties = "Wool Technician"). Hired, March 1, 1945; resigned August 28, 1946.
- Anderson, Alfred T., Stockman, CPC-7 (duties = "Operations"). Hired October 1, 1936.
- Schild, Edna F., Clerk, CAF-4 (duties = "Clerical"). Hired November 11, 1936.
- Gleason, Jimmie, Ass't. Ind. Gen. Mech. (duties = "Maintenance"). Hired April 1, 1942.
- Chadacloi, Marion, Ass't. Ind. Lab. Aid (duties = "Lab. Aid"). Hired January 12, 1944.
- Dentclaw, Jessie, Ass't. Ind. Lab Aid (duties = "Weaver"). Hired October 1, 1942.
- Bia, Wilfred, Ass't. Ind. Stockman (duties = "Livestock"). Hired March 19, 1946; resigned August 16, 1946.

11th Annual Report, FY 1947 (Dodge papers: FY 1947)

- Sidwell, George M., Animal Husbandman, P-2 (duties = "Genetics"). Hired December 1, 1946.
- Navarre, Orval LeRoy, Stockman, CPC-7 (duties = "Operations"). Hired February 6, 1947.
- Costello, Araminta D., Clerk-stenographer, CAF-4 (duties = "Clerical"). Hired July 1, 1947.

- Bia, Wilfred G., Agricultural Aid, SP-3 (duties = "Assistant"). Hired December 16, 1946; resigned September 15, 1947.
- Fisher, Phoebe, Weaver, CPC-4 (duties = "Weaving"). Hired May 22, 1942; Admin. furlough: October 17, 1947.

12th Annual Report, FY 1948 (Dodge papers: FY 1948)

- Christensen, James O., Animal Husbandman (duties = "Wool Tech."). Hired February 3, 1947.
- Navarre, Orval LeRoy, Stockman (duties = "Sheep Management"). Hired February 6, 1947.
- Singer, Jerome H., Statistical Clerk (duties = "Sheep Records"). Hired January 28, 1948; resigned May 28, 1948.
- Deschene, Fred, Agricultural Aid (duties = "Miscellaneous"). Hired October 2, 1947.

Records from the later days of the Lab, i.e., from the early 1950's through its closure in 1966, are relatively abundant, in part due to the personal curatorial efforts of Alison Dodge, the Lab Clerk from 1951 to 1961 (Dodge papers). Even though these records largely post-date the Lab's era of significance, they may be assumed to be typical of that institution's transactions in many ways, notably in their capacity to document the presence and duties of the Navajos who worked at the Lab.

Mrs. Dodge, herself, became fixture at the Lab during her tenure there. Sheep Lab correspondence indicates that she served as acting Director in the later Lab years, during the reign of Stanley Smith. She was apparently the only woman to achieve such a status in the Lab's history. In addition to her administrative duties, Mrs. Dodge was entrusted with the "care and feeding" of visitors and was at times the only Laboratory staff present on the grounds. She lived in Building No. FW 709 with its associated garage (FW 710) and root cellar (FW 732) (collectively known as Resource 18) (Popelish 1992b; USDI Indian Service 1957).

Before coming to the Sheep Lab to work, Mrs. Dodge was employed by the BIA at Window Rock, the capital of the Navajo Nation, from about 1943 to 1951. She is remembered as saying that she "knew" the Sheep Lab from its beginnings. She was once married to Thomas Dodge, the son of Navajo traditionalist Chee Dodge (Popelish 1992b; Linda Popelish, personal communication, March, 2002). Thomas Dodge was an "educated" Navajo, a lawyer who had a practice in Santa Fe in the early 1930's. He was elected Chairman of the Navajo Tribal Council in 1933. Although Thomas's father, Chee, was bitterly opposed by J.C. Morgan of the Returned

Students Association (see below), Thomas and Morgan reportedly maintained a friendship despite of their political differences (Parman 1976:39, 41).

Among the Dodge papers there exists a small "time book" listing some of the Navajo workers associated with the Sheep Lab during the years 1951-1953, e.g., Fred Deschene, Calvin Gleason, Jimmy Gleason, Sam Martinez, and Coffee Chili ("Time Book" GPO No. 50193). Some of these names reappear elsewhere in the Papers, on "purchase orders" documenting the wage rates of Indian and Hispanic workers at the Lab during 1952 and 1953:

- Hoska Mariano, sheepherder. Worked 72 days in 1953 @ $165.00 per month.
- Homer Dick, sheepherder. Worked in 1952 and 1953 @ $165.00 per month.
- Ann Johnson (Acoma Pueblo), cleaning services, "6 lab & office rooms." Worked in 1952 and 1953 @ $0.83 per day or $25.00 per month.
- Coffee Chile (Navajo). Worked as a fence rider in 1952 @ $35.00 per month. Worked as a sheepherder in 1952 @ $3.33 per day and in 1953 @$100.00 per month. A note on another list states that he was terminated on December 4, 1953.
- Vicente Coho, sheepherder. Worked in 1952 (wages not listed) and in 1953 @ $5.50 per day.
- Mr. Rafael Tapia (Hispanic?), shearing. Worked in 1953 @ $0.35 - $0.70 per sheep.
- Dan Martinez, sheepherder. Worked in 1952 @ $165.00 per month.
- Sam Martinez, sheepherder. Worked in 1952 @ $165.00 per month. (Popelish 1992b.)

A map of the Sheep Lab buildings bearing the date "October, 1957" lists the occupant of building FW 716 as "Deschene." This may be the Fred Deschene listed above. FW 716 is listed as a wood frame "T.P.G." and is situated about 80 feet west of the Warehouse, FW 711 (Resource 6). No trace of FW 716 remains today. On the employee list mentioned above, there is a note written beside Mr. Deschene's name that reads, "might be person in 'More Money for Wool' he was from AZ." Another note proclaims that he was a sheepherder at the Lab and was also a "Navajo Medicine Man" (Popelish 1992b).

Coffee Chili was affiliated with the Lab as early as 1939. The reason for his termination in 1953 has not been identified. Chili was a well-known cowboy and sheepherder in the area; his photos still grace the walls of the Ft. Wingate trading post. Mrs. Meroe Smith, Stanley Smith's wife, remembers him thusly:

> He talked Navajo and Spanish all at once. Once in a while you could get an English word. . . . He was an interesting old fellow, singing . . . Kind of a gruff individual . . . (Brooks 1992.)

Calvin Gleason was a long-time employee of the Sheep Lab. Notes in the Dodge papers describe him as "a sheepherder and all around helper." He had been one of the famous "code talkers" in WWII (Brooks 1992) and had lost an arm in that conflict. His brother, Jimmy, "was a road grader, took care of vehicles at the lab" (Popelish 1992b). Per the 1957 map, "C. Gleason" was residing in Staff Residence FW 719 (Resource 22) and "J. Gleason" lived next door, in Staff Residence FW 734 (Resource 24). The latter cottage was apparently the last of the Mayers, Murray, and Phillips buildings to be completed at the Lab (USDI Indian Service 1957).

The annual shearing of the sheep, which occurred in the month of April, involved the participation of two more Southwestern ethnic groups. The Sheep Lab retained the services of Hispanic and Basque shearers for the job, some of whom were local and some of whom came from as far afield as the Albuquerque area. One of the local shearers was named Pistol Navarre (a Basque surname), whose occupation is also listed as "head chaparrell" (Popelish 1992b). According to his wife, Billie, Navarre contracted with the Sheep Lab to provide his services as a shearer. Two other, Hispanic, shearers were named Rafael Tapia (see above) and Abe Peña (Popelish 1992b). Many of these men returned year after year, and may be considered as integral to the functioning of the Lab as the Anglo researchers and the Navajo herders and clientele (Linda Popelish, personal communication, March, 2002).

Notes accompanying the Dodge papers provide a brief list of some of the "Anglos" employed by the Lab, mostly during its last decade of existence. Included are Earl Ray, Geneticist, 1958-1961; Jack Ruttle; Gordon Jessup, Jr., Animal Husbandman, 1951-1961; George Sidwell; Vern B. Swanson; Glen Perkins; Tom Hall; and Clair Terrill. Sidwell, Ruttle, and Ray authored the monograph, *Improvement of Navajo Sheep*. That document provided much of the information on the Lab's breeding programs for this discussion (Sidwell, Ruttle, and Ray, 1970). The October, 1957, map lists the occupant of Staff Residence FW 707 (Resource 16, associated with FW 708, Resource 17, a garage and "dugout") as "Ruttle," the occupant of FW 703 (Resource 12) as "Perkins," and the occupant of the Director's Residence, FW 702 (Resource 1) as "Smith" (USDI Indian Service 1957).

A 1956 building inventory conducted for the transfer of the property from the Department of Interior to the Department of Agriculture in shows that the Sheep Lab included, at that time,

27 buildings and miscellaneous structures valued at $64,000. There were seven residences, one office/laboratory, eight garages/sheds, four gas storage areas and pumps, five vacant buildings, and two miscellaneous structures, identified as a barbecue and a latrine (Copeland 1988b:19).

On April 30, 1966, the Southwestern Range and Sheep Breeding Laboratory closed, following the opening of the U.S. Meat Animal Research Center in Clay Center, Nebraska. After guiding the Lab through its era of range management research and public education programs, Stanley Smith stepped down as Director in 1964. R. Dean Humphrey became the last Director, from 1964 to 1966. It may be assumed that his main task was to bring the Lab's programs to their conclusions, in preparation for the facility's demise. The Sheep Lab was closed because the USDA, in one of the federal government's cyclical "belt-tightening" phases, required that each of its meat animal research branches close a facility. The Sheep Lab research program was one of the chosen on the rationale that its work did not benefit the national sheep industry, as a whole, but rather only a single ethnic group. Beginning on August 8, 1966, the facilities were used by the USDA Forest Service, as the Gallup District Office of the Cibola National Forest. On November 30, 1967, the Department of Agriculture Research Services transferred control of the facilities and the associated land to the Forest Service (Copeland 1988b:19).

CLOSURE OF THE LAB

Although the Sheep Lab never produced "perfect Navajo range sheep," it may be considered as successful in many other ways. In addition to its annual reports, Lab staff published at least 32 technical papers on sheep husbandry in many technical and livestock trade publications. Range management practices devised by the SCS component of the Lab partnership are still used on the Navajo Reservation today. Researchers and lay people from all over the world made the journey through the hitherto-unknown scrubland of the Ft. Wingate area to witness a research program unique in its scope and impact. And perhaps most poignantly, it evolved, throughout the 30 years of its existence, into a close-knit and caring multicultural community whose humanism embodied the best of the New Deal ideals that spawned it.

SIGNIFICANCE

Criterion A: Association with Important Events in History

The Indian New Deal

A discussion of the significance of the Southwestern Range and Sheep Breeding Laboratory would be incomplete without an understanding of the political milieu that engendered it. That the Great Depression of 1929-1940 inflicted great suffering upon the American populace is a "given" of twentieth century history. That the poor suffered more than the more affluent is likewise understood. And that Native Americans, as some of the poorest of the poor, suffered unbearably, is a foregone conclusion. The Navajos, the largest North American tribe both in terms of population and reservation acreage, were no exception: In 1930, the estimated per capita annual income on the Reservation was only $60.00 (Parman 1976:23).

The election of Franklin D. Roosevelt heralded the era of nation-wide relief and social reform programs that are known as the New Deal. His rise to power also instigated an about-face in the U.S. Government's policy toward her subject Indian nations, *vis*, from one of forced assimilation into the White Man's world (albeit as an inferior and controlled member of his society) to an approach that supported the retention of traditional tribal values and encouraged self-rule. The marriage of these two ideologies came to be known as the "Indian New Deal." The Navajo Nation was first in line to receive its benefits *and* to be its guinea pig:

> [In 1933] the tribe discovered that their favorite uncle [Sam] not only would pour funds into the reservation to relieve distress but that New Dealers suddenly wanted them to preserve their heritage and to have a greater voice in reservation affairs. (Parman 1976:24.)

And as Parman asserts, they were "The Chosen Tribe" for several reasons:

> In terms of achieving these [Indian New Deal] goals, the Navajos seemed ideal. Isolation from the rest of American society, ability to change without abandoning the essence of their culture, and the existence of a tribal council indicated that the Navajos, seemingly at least, needed little help in meeting Washington's aspirations. Indeed, the Navajo's situation appeared so promising that the New Dealers enthusiastically turned the reservation into a giant pilot project where ideas could be tested before being tried on other tribes. (Parman 1976:24.)

As soon as he was elected, Roosevelt set about appointing the men (and in those days they were virtually all men) who would give life and breath to the New Deal, including its Indian component. Most crucial to Indian interests were the appointments of the Secretary of the Interior and his subordinate, the Commissioner of Indian affairs. The then-current Commissioner, Charles J. Rhoads, and his Assistant Commissioner, J. Henry Scattergood, "had instituted limited reforms in education and health" on the nation's reservations (Parman 1976:24). However, their policies were essentially conservative and assimilation-based. The ensuing political battles to replace the Old Guard with the New Dealers were predictably pitched and partisan. They did, however, contain some new twists. For one, the man Roosevelt chose to head the Interior Department was not from the American West, as most of his predecessors had been. Harold I. Ickes was a Chicagoan whose frequent visits to the Navajo reservation had enamored him and his wife, an Illinois state legislator, of the region and its culture.

The Ickeses were involved in various projects aimed at promoting Indian culture in general and Navajo culture in particular. They worked with traders and Navajo craftsmen on the Reservation to promote tribal handicrafts and to abolish non-Indian-made imitations. The Ickeses also helped establish the Gallup Intertribal Ceremonial Pow Wow, and Mrs. Ickes wrote a popular ethnography of southwestern Native American cultures called *Mesa Land* (Parman 1976:26). In a word, the new Secretary of the Interior was an Eastern intellectual liberal whose humanistic ethic and compassion for the "downtrodden" dovetailed with the social and emotional tone of the New Deal.

John Collier, Ickes's choice for Commissioner of Indian Affairs, was cut from the same cloth, if not more so. A classic rumpled and distracted Eastern intellectual (Parman 1976:40) and peripatetic social worker, Collier had spent time with Mabel Lujan's Taos intelligentsia in the early 1920's.

> In Taos Mable Dodge Lujan interested Collier in the Indians and their plight. After seeing various Indian ceremonies and dances, Collier believed he had found the "Red Atlantis." In his work in New York tenements, he had found a need for a model of communal existence. He found it in the Pueblo cultures of New Mexico and Arizona. In 1922 Collier moved to New Mexico and took a job as a field worker for the Indian Welfare Committee. By the end of the decade Collier was head of the Indian Rights Defense League and in that position became well-known to Congress, the BIA, and Indian tribes throughout the country. The combination

> of the movement toward reform, the funds available under New Deal programs, and Collier's view of the Indians and their situation made his years as Indian Commissioner, 1933-1945, interesting ones. (Threinen 1981:39.)

Not all Indians, and not all Navajos, supported Collier's appointment. The Returned Students Association (RSA) was a Navajo organization comprised of boarding school alumnae who had chosen to return to the Reservation after graduation. As a whole, the RSA opposed rigid traditionalism and advocated for mainstream American education and economic development for the tribe. J.C. Morgan, the RSA Secretary at the time of Collier's appointment, accused Collier of wanting to keep Indians "'in the blanket' by encouraging native dances and traditions instead of educating [them] in a modern way of life" (Parman 1976:28).

Viewed through the lens of the early twenty-first century, Collier's attitude towards Native Americans appears naively romantic and simplistic, and this may have been the perception of the Native Americans who opposed him. His idealization of Pueblo culture and ignorance of Navajo lifeways did produce some dubious results *vis a vis* his Indian New Deal Navajo pilot project. For one thing, it prompted the BIA to adopt a Pueblo Revival architectural style for most of its Navajo construction projects, including the Sheep Lab. In defense of this tact, however, it is true that some Navajo had built pueblo-like homes, called *pueblitos*, during the Refugee Period, 1680-1750, in the Dinetah (Threinen 1981:21). It is also true that, at the Indian New Deal's inception, many Navajos were not living in hogans (Threinen 1981:23, 25-26) and that, upon those occasions when New Deal programs did construct hogan-like buildings, some Navajos may have regarded Government adaptation of their traditional style as condescending. (See below).

Collier's idealism and/or ignorance caused more serious consequences in another area. Collier was opposed to the Indian boarding school on the grounds that it disrupted Native families and culture. By 1936, the BIA had built 46 day schools on the Reservation with Public Works Administration (PWA) money and had abandoned most of the boarding schools or converted them to day schools. In addition to the modified Pueblo Revival style (discussed below), some buildings were constructed in the manner of Navajo hogans. Unfortunately, the day school project proved to be a costly mistake:

> The migratory patterns, sparse population, huge distances, and poor transportation made day schools less suitable than boarding schools and kept attendance at day schools low. Also, the Navajos were poor enough that they needed the clothing allowance provided by the boarding schools. The day schools provided only one

> meal and no clothing allowance. One interesting attitude was that the Navajos sometimes resented the new school buildings because they were like hogans with their low ceilings, dirt floors, and need of constant repair. (Threinen 1981:41.)

During the years of WWII, when domestic Government spending was slashed, many of the day schools were closed or converted to boarding schools (Threinen 1981:43).

Other sources of Navajo resentment and opposition to Collier's programs involved the speed with which they were introduced and implemented. Thanks to the synergy of Collier's enthusiasm, the Indian Reorganization Act of 1934, and funding available through the PWA and Civilian Conservation Corps (CCC) programs, the Navajo Nation was pressured to re-create its system of education, government, and social goals in less than a decade. This was simply too much change for a culture to assimilate, even one as flexible and resilient as the Diné's. Even though many of the ideas promulgated during the Indian New Deal, e.g., self-government and heritage retention, have proved to be good ones, they came too "thick and fast" to be instantly and wholeheartedly accepted (Threinen 1981:40).

But by far the prickliest thorn in the bale of Navajo New Deal "benefits" was the infamous stock reduction program. This program:

> . . . was intended to reduce the number of livestock and to improve the badly eroded ranges. This was to be accomplished by setting a maximum number of sheep, horses and goats per family, introducing new breeding stock, teaching the Navajos new land use patterns, and setting aside land reclamation areas. (Threinen 1981:41.)

However, implementation of this program involved what amounted to theft of livestock from destitute Navajo families, sometimes accompanied by brutal treatment from Government field workers. As a result, the other Indian New Deal programs became tarred with the same brush in the minds of many Navajo, who refused to participate in them.

The Indian New Deal came to an end shortly before the end of World War II:

> John Collier resigned as Commissioner of Indian Affairs January 19, 1945. His resignation marked the end of an era of understanding and progress for Indians. After World War II the Navajos faced many of the same problems they had before

> the Navajo New Deal began. The Navajo Reservation was still inadequate for the number of people and livestock needed to support them. The government was formulating a new policy called termination. Its goal of elimination of reservation status was similar to that of the assimilation policy, which Collier had worked so hard to reform. (Threinen 1981:43.)

The one program that was apparently unequivocally welcomed by the Navajo was the establishment and operation of the Sheep Lab (McNeal 1992; Parman 1976:127) For some reason, this venture escaped any perceived taint of White coercion or condescension and grew to be, throughout the 30 years of its existence, a model of intercultural and inter-agency cooperation. It survived the passing, both of Collier and the Indian New Deal he personified. It persisted through the post-WWII era of renewed hostility to Indian self-expression and into the rebirth of humanism and social reform that marked the Kennedy-Johnson eras.

The Southwestern Range and Sheep Breeding Laboratory is unique among New Deal programs, in general, and Indian New Deal programs, in particular, in that it was the only such entity to target a discrete ethnic group, living in a particular environment. While the Lab played a significant role in the federal government's efforts to improve the Navajo economy, it also served as a pilot project in which to test and refine basic Indian New Deal concepts for their application to other tribes and programs. The Lab was very much the "poster child" for the new and idealistic ethos of John Collier's reign as Commissioner of Indian Affairs. It embodied his, and therefore, the Indian New Deal's, commitment to Native American self-determination and cultural revival. Moreover, it survived the demise of that ideology on a national scale, preserving that ethic in microcosm until its rebirth in the Kennedy administration. A tangible legacy of this exists in the preservation and improvement of the churro sheep and the support of the Navajo weaving cottage industry during the years when tribal emphasis turned to commercial wool production. Today, churro wool is much in demand, not only among traditional Navajo weavers, but also throughout New Mexico, where it has become the wool of choice for the Spanish weaving revivalists and for the contemporary hand weaving community, as well. Socially, the multicultural community into which the Laboratory evolved represents the Southwest as its best, i.e., an example of that racial and ethnic cooperation and mutual respect that lies at the core of American values.

The Sheep Lab therefore symbolizes the best of many "worlds" in early and middle twentieth century regional and national history. It was perhaps the only Indian New Deal program that did not incur considerable mistrust and enmity among its beneficiaries. It was also one of those rare government programs that actually benefited its constituency by providing jobs and

information relevant to that people's survival. Its work in arid lands management and livestock genetics attracted national and international attention. It preserved a breed of sheep and a Native cottage industry, both of whose economic and cultural values are still appreciating today. And perhaps most important, the Sheep Lab was a regional embodiment of the philosophy of multiculturalism that is only now coming into its own on a national scale.

Early Twentieth Century Government Architectural Design Philosophy

The New Deal social philosophy that begat the Sheep Lab is also evident in the architectural style employed in its creation. The buildings possessed the flat roofs, parapets, vigas, and canales that are hallmarks of the Pueblo Revival style, a combination of Pueblo Indian and New Mexican Spanish Colonial design elements that has enjoyed popularity throughout the Southwest since the turn of the twentieth century. But the Sheep Lab architecture lacks an essential ingredient of the classic Pueblo Revival "recipe," *viz*, the thick and enveloping coat of plaster to lends its creations the rounded and "overstuffed" look of that genre: "Above all, it had to be plastered on the outside to look like adobe ..." (Iowa 1985:82; see also Harris 1998:262; McAlester 1984:435; UNM SAAP 1980:VI42-43; Whiffen 1969:229). Although the style has survived at least three major modifications through the years, this external treatment of plaster or stucco remains as *de rigueur* as the viga and the flat roof (UNM SAAP 1980: VI42-44).

What, then, of the Sheep Lab buildings, with their exposed walls of locally-quarried sandstone masonry? To answer this question, we must look both beyond and backward, i.e., beyond the standards of Indian New Deal architecture, and backward to the year 1905. In that year, architect Mary Colter designed Hopi House, a museum and gift shop for the tourist trade at the Grand Canyon. It closely resembles the structures in the nearby Hopi villages, including exposed masonry walls:

> Hopi House . . . may be the earliest modern building to consciously mime the ancient architectural manner of the Indian Pueblos. Stone is not customarily used in Pueblo Revival, though it is in nearby Hopi towns. (Iowa 1985:77, photo caption.)

This early example of a plasterless, masonry Pueblo-inspired architectural style undoubtedly helped set the precedent for the Pueblo Revival variant of which the Sheep Lab buildings are examples. This style is part of a genre developed by the National Park Service some years after the construction of Hopi House and subsequently adopted by other governmental

agencies, especially during the New Deal construction boom in the 1930's. On May 13, 1918 -- in response to pressure from such luminaries in the field of landscape architecture as Frederick Law Olmstead -- NPS Chief Architect Tom Vint issued a policy statement proclaiming that all development in national parks be planned and executed "in accordance with a pre-conceived plan developed in special reference to the preservation of the landscape." It stipulated that this development be carried out by "trained engineers who possess either a knowledge of landscape architecture or have a proper appreciation of the aesthetic value of park lands" (Soullière-Harrison, Copeland, and Buck 1988:12). The result of this edict was the creation of an architectural aesthetic that has come to be known as *NPS Rustic* or, more whimsically, *parkitecture* (Soullière-Harrison, Copeland, and Buck 1988:12). This was not a discrete style but rather the selective adaptation of existing architectural styles to harmonize with the natural and cultural milieu of a given NPS site.

> The structure harmonized with its natural environment through the use of on-site or locally available materials . . . . [It] also related to the surrounding topography through shape and form . . . In addition, [it] reflected local cultural traditions through the use of simple stylistic elements, such as the flat roofs and projecting vigas . . . of pueblo revival architecture in the Southwest. (Soullière-Harrison, Copeland, and Buck 1988:12.)

Most of the Pueblo Revival style buildings and structures built under the NSP Rustic aegis are unplastered. Many present bare masonry to the world, and at least one consists of unplastered adobe (Good 1938). Building upon Cook's Hopi House precedent, this look was popularized by Jesse Nusbaum's design of the administration buildings at Mesa Verde National Park (Chris Wilson, personal communication, March, 2002). As in the case of Hopi House, the structures at Mesa Verde echoed the look of adjacent Puebloan architecture, in this case the archaeological sites of Cliff Palace and other Anasazi ruins. From here, it is but a small intellectual leap to the conclusion that the prevalence of the unplastered variant of Pueblo Revival style in NPS sites throughout the Southwest is intended to harmonize with the ancient masonry ruins with which they co-mingle. The CCC-built facilities at Bandelier National Monument are excellent examples of this phenomenon. That many of these ruins were plastered when they were inhabited was of little import to the NPS Rustic requirement that man-made structures blend visually with their surroundings.

It was not long before other government agencies adapted the NPS Rustic aesthetic to their mandates. In 1933, W. Ellis Groben became "the first and only Washington Office

architect" for the United States Department of Agriculture Forest Service (Grosvenor 1999:21). Groben realized the differences between the mandates of the NPS and Forest Service:

> Forest Service areas are not exclusively parks nor recreational in character but, in addition to offering these facilities, they serve highly utilitarian purposes generally, as a result of which it becomes necessary to provide buildings to adequately accommodate and house the personnel and equipment required to properly conduct the varied phases of Forest Service work. (Grosvenor 1999:21).

However, he condemned existing Forest Service architecture as being "based upon variations of imported styles foreign in character to a particular Region" ... that "fail to possess Forest Service identity or to adequately express its purposes" (Grosvenor 1999:21). To remedy this, he espoused the philosophy of the NPS Rustic aesthetic and declared that:

> Regions not fortunate enough to have any traditional regional architecture must resort to the development of original designs based upon typical regional prototypes . . . . Therefore. the first step in this procedure is to zone the Region for architectural styles, based upon climatic characteristics, vegetation, and forest cover. This has been very logically done by one Region in the following manner:

Type of Country	**Style of Architecture**
Desert or semidesert	*Adobe or Pueblo*
Grassland	Ranch-house type
Woodland (pine. fir. or spruce)	Timber types
Alpine	Alpine type (stone or stone and rough timbers)

(Grosvenor 1999:22, italics added.)

Much National Forest land in the Southwest is desert or semi-desert and lies within a cultural province that possesses a distinctive architectural style adapted to the region's climate and natural building materials. Hence, much the construction completed in Forest Service Regions 2 and 3 (Colorado and Arizona/New Mexico, respectively) during the "Groben years" (1933-1938) and CCC era (1934-1946) was built in the Pueblo Revival style (e.g., Grosvenor 1999:29, Fig. 1-22; 32, Fig. 1-25; 36, Fig. 1-27; 48, Fig. 1-39. Note that, where visible, all of these examples appear to have plastered exteriors.)

It is into this architectural context, then that the Sheep Lab buildings and structures may be placed. They are examples of the regionally- and culturally-appropriate architectural styles promoted by Indian Commissioner John Collier for his "Indian New Deal" (Threinen 1981:63-84). They also represent an adaptation of the NPS Rustic aesthetic by three federal governmental agencies, in addition to the Forest Service: the USDI Bureau of Indian Affairs and the USDA Bureau of Animal Husbandry and the Soil Conservation Service. The buildings also embody the desire of the Bureau of Indian Affairs during this era to provide an environment that its Navajo employees and clients would find familiar and comfortable. The Sheep Lab appears to be the only non-educational and non-administrative government facility built in the Pueblo Revival style using allocated PWA money administered by the Indian Service (Copeland 1988b: 23).

That the Sheep Lab should eventually fall into the hands of the Forest Service, another promulgator of the NPS Rustic aesthetic, is fortunate and historically appropriate. Although some of its buildings have been altered by the addition of low-pitched gabled roofs and the removal of protruding vigas, they nonetheless retain much of their original appearance and are the "glue" that binds the landscape of the Historic District into a visual and conceptual whole. All contributing buildings and structures should be maintained in a manner that retains their remaining stylistic integrity and so preserves their pivotal role in the integrity of the District of which they are the most visible resources.

Criterion D: Potential to Yield Important Information about the Indian New Deal and Navajo Heritage

The Southwestern Range and Sheep Breeding Laboratory Historic District possesses significant information potential in the form of its many archeological resources. Table 3, in Section 7, lists the resources that currently exist wholly or primarily as excavatable sites.

The archeological data awaiting discovery and interpretation in the Historic District have the potential to address a number of questions about the organization, activities, and subsistence practices of the Sheep Lab employees and residents during the Indian New Deal era. They also have the potential to contribute significant information about activities at a small-scale regionally-focused agricultural research facility. The Navajo hogan and sweathouse remains and associated assemblages hold potential for identifying subsistence and religious practices of seasonal Navajo workers during a period of increasing exposure of the Navajo to Anglo-American society. For example, Breternitz and Ash indicate that small hogans, i.e., those that measure less than 11 (3.5 m) in diameter, are commonly used by herders or seasonal workers

(1984:119). Hogan remains associated with the Sheep Lab occupation appear to be small. Breternitz and Ash remark, "shelters for Navajo working for wages away from their families are rarely described either archeologically or ethnohistorically" (1984:120). A third area of research involves the use of the sweathouses: Was their use associated with specific ceremonies or events? Can they be dated to a particular period? The Sheep Lab's archeological information could amplify and verify the historic and ethnographic record for Navajo seasonal workers and help refine the techniques and theory of historic aboriginal archaeology in general.

The Historic District's resources also have the potential to provide information important in understanding the operationalization of the Indian New Deal in the American Southwest. Study of the location, layout, design, materials, and construction of the buildings, animal enclosures, and water control structures can provide information vital to the understanding of the economic, social, scientific, and political dynamics of that era. Moreover, the seven trash concentrations are potential gold mines of information on the details of day-to-day activities that escape the broader brush of written history (Rathje 1992). In sum, the Wingate Range and Sheep Breeding Laboratory is an intact example of a New Deal experiment reflecting a most interesting and poignant era of our nation's history.

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VERBAL BOUNDARY DESCRIPTION

The boundary of the Southwestern Range and Sheep Breeding Laboratory Historic District is delineated by the lines of the four-sided polygon shown on the Ft. Wingate USGS 7.5' quadrangle map, the vertices of which are marked by the following UTM (Zone 12) reference points: (1) 720400m easting, 3926290m northing; (2) 720910m easting, 3926280m northing; (3) 721080m easting, 3925920m northing; (4) 720260m easting, 3925620m northing.

BOUNDARY JUSTIFICATION

The boundary of the Sheep Lab Historic District has been selected to encompass the major contributing buildings, sites, and structures that pertain to the period of significance of the Southwestern Range and Sheep Breeding Laboratory. Other, widely dispersed, historic resources exist in the vicinity of the Historic District. They have not yet been evaluated for significance to the District, and hence are not included within the boundaries set forth in this nomination.

NPS Form 10-900-a
(8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

PHOTOGRAPHS

Photograph 1. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View to the north showing the staff residences of Area B and the horse pasture and lambing pen areas (middle ground). The Rio Puerco and Wingate Cliffs are in the background. The fence (foreground) is located just north of the parking lot in front of the Laboratory-Office Building, FW 701 (Resource 1, Area A). October 13, 2000. Tom Hobart, photographer. Negative No. 2000-01-03-07, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 2. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View to the south showing the buildings of Area A, the horse pasture area, and the surrounding pinyon-juniper woodland. The Laboratory-Office Building, FW 701 (Resource 1) is located on the western (right) end of the visible buildings. October 13, 2000. Tom Hobart, photographer. Negative No. 2000-01-03-22, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 3. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View of the Laboratory-Office Building, FW 701 (Resource 1, Area A), looking south from parking lot. October 13, 2000. Tom Hobart, photographer. Negative No. 2000-01-04-13, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 4. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View of the Warehouse, FW 711 (Resource 6, Area A), looking northwest. October 13, 2000. Tom Hobart, photographer. Negative No. 2000-01-04-17, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 5. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View of the Director's Residence, FW 702 (Resource 11, Area A), looking southwest from driveway. October 13, 2000. Tom Hobart, photographer. Negative No. 2000-01-04-08, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 6. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View to the northwest showing the staff residences of Area B. September 26, 2000. Rita Gentry, photographer. Negative No. 2000-01-02-15, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 7. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View of Staff Residence FW 734 (Resource 24, Area B), looking west. October 13, 2000. Tom Hobart, photographer. Negative No. 2000-01-04-34, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 8. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View of Dugout (Resource 25, Area B), looking south. September 26, 2000. Rita Gentry, photographer. Negative No. 2000-01-02-16, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 9. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View of Oven (Resource 26, Area B), looking west. September 26, 2000. Rita Gentry, photographer. Negative No. 2000-01-02-18, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 10. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. View of Possible Hogan Remains No. 2 (Resource 31, Area C), looking north. September 26, 2000. Rita Gentry, photographer. Negative No. 2000-01-02-08, on file at USDA Forest Service, Cibola National Forest Supervisor's Office, Albuquerque, New Mexico.

Photograph 11. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. Navajo *churro* ewe bred and raised at the Sheep Lab. 1935-1966. Unknown photographer. Negative No. 92-RO-01-15, on file at USDA Forest Service, Mount Taylor Ranger District Office, Grants, New Mexico.

Photograph 12. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. Sheep Lab employee sharpening shears. 1935-1966. Unknown photographer. Negative No. 92-RO-01-16, on file at USDA Forest Service, Mount Taylor Ranger District Office, Grants, New Mexico.

Photograph 13. Site AR-03-03-02-483/LA67819, Southwestern Range and Sheep Breeding Laboratory Historic District, McKinley County, New Mexico. Sheep Lab employee processing wool samples for analysis. 1935-1966. Unknown photographer. Negative No. 92-RO-01-17, on file at USDA Forest Service, Mount Taylor Ranger District Office, Grants, New Mexico.

Figure 7.1 Southwestern Range and Sheep Breeding Laboratory Historic District