

burned the crucifixes and other religious objects that had been scattered in and around the pueblo. Otermin's army repeated this ritual at Alamillo and Sevilleta. A short distance from Sevilleta the army found deep pits where the Indians had cached corn and protected it with a shrine of herbs, feathers and a clay vessel modeled with a human face and the body of a toad (Hackett and Shelby 1942:I:cxxix). On the march from Socorro to Isleta, the army passed through the burned remains of four estancias. The estancia of Las Barrancas, located 23 leagues beyond Senecu and ten leagues downstream from Isleta, was the only estancia that had not been greatly vandalized and burned (Hackett and Shelby 1942:cxxx).

Otermin staged a surprise attack, taking Isleta Pueblo on December 6, 1681. About 500 Isleta and Piro Indians were living in the village at the time of the attack (Hackett and Shelby 1942:I:cxxxii). Father Ayeta, the religious leader of Otermin's army, delivered mass to the village and burned all items associated with idolatry and sorcery. While this religious reconquest was taking place, Otermin sent a smaller party ahead under the direction of Juan Dominguez de Mendoza to prepare the northern pueblos to receive the conquerors. Otermin stayed at Isleta to gather provisions from the depleted pueblo stores. The residents of Isleta could give only 15 bushels of shelled corn, and told Otermin of the drought and famine that followed the revolt (Hackett and Shelby 1942:I:cxxxvii). In fact, the Isletans believed that their village would soon be raided by northern Pueblos who sorely needed food supplies.

Mendoza's party reached Alameda, Puaray, Sandia, San Felipe, Santo Domingo, and Cochiti. In all cases, the pueblos were largely deserted: the few elderly and infirm Indians met by the troops told how they had been left by their people who scattered to the hills when they learned of the reconquest attempt. Throughout the villages Mendoza found the Christian symbols smashed and signs of traditional religious practices renewed. Mendoza sent messages to those pueblos he did not visit, but in the end the attempted reconquest failed.

On January 2, 1682, Otermin led the second retreat from New Mexico taking 385 Isletans to El Paso. The Pueblo of Isleta del Sur was established near the two Piro villages and the growing Hispanic settlement of El Paso. While

not successful in reestablishing Spanish rule of the Pueblos, the interviews and explorations Otermin and Mendoza conducted give the most complete picture of the effects of the revolt among the pueblos. The Spanish presidio at El Paso sent two more punitive expeditions to New Mexico in 1688 and 1689 but it was not until the term of Governor Don Diego de Vargas (1690-1696) that New Mexico was reclaimed by Spain.

The Aftermath of the Revolt

Documentation of the 12-year period following the Pueblo Revolt is scarce but speculation and conjecture abound. The more dramatic reconstructions of life among the Pueblos after the revolt show the Pueblos having destroyed every vestige of Hispanic culture, including household and religious objects, domesticated animals and cereal crops. Shifts in the locations of Pueblo settlements are known from the period preceding and following the revolt. The Tompiro and Tiwa retreat from the eastern flank of the Manzano Mountains in the late 1670s opened new territory to the Apache and exposed the Rio Grande pueblos to predation (Schroeder 1968). The Rio Abajo, Isleta, and Piro villages were abandoned during the revolt and Otermin's reconquest. Elsewhere in the Rio Grande, the Pueblos seem to have moved their villages to more defensible locations.

Schroeder (1972:56) believes that the Pueblos retained the domesticated animals, crops, and metal tools introduced by the colonists, and continued to use Spanish as a lingua franca. He also suggests that this period may have seen considerable change in pueblo socio-religious organizations as the remaining fragments of Pueblo groups aggregated and readjusted their ritual and cultural patterns. Fray Angelico Chavez (1967) argues that not only were items of material culture retained by the Pueblos, but many mestizos remained among the Pueblos after the revolt. The arguments of Schroeder and Chavez are supported to a great extent by the documents included in Hackett and Shelby's study of the Revolt. Tools, objects of metal, livestock, and crops mentioned in the documents clearly indicate that not all traces of the colonial experience were obliterated during the revolt. Otermin reported that mestizos, mulattos, and people who spoke Spanish were living in the pueblos that he and Mendoza contacted (Hackett and Shelby 1942:I:355).

The unity that allowed the Pueblo Revolt to take

place would not last. Inter- and intra-village factionalism, the scarcity of food, and unremitting Apache raids weakened the defenses of the pueblos and gave Don Diego de Vargas the opportunity to reclaim New Mexico.

The Reconquest

Spanish nobleman Don Diego de Vargas made his first expedition to New Mexico in 1692. Through artful diplomacy and keen insight, Vargas was able to win the allegiance of 10 of the 23 occupied pueblos (Espinosa 1940:31). This victory won Vargas the right to reestablish the Hispanic colony. This task was not easily accomplished. Vargas left El Paso on August 21, 1692 with a force of Hispanic soldiers and allied Pueblo warriors.

On August 31 the army arrived at Senecu. Vargas spent little more than one week in the former territory of the Piro. His campaign journal is brief, saying only that he stopped at Senecu, the ruins of Socorro, the Pueblo of Alamillo, the uninhabited farm of Felipe Romero, and the former haciendas of Francisco Gomez and Thome Dominguez (Espinosa 1940:64-67). He reports that the road was almost impassable, necessitating the use of pack animals to transport supplies. In official correspondence dated January 12, 1693, Vargas makes recommendations concerning the possibility of reestablishing settlement in the Rio Abajo. Of the lands between Isleta and Senecu, Vargas says:

The natives of the said tribes (Isleta) now live in some miserable huts in the pueblo of Isleta, in this district of El Paso, and so it will be desirable to restore them to their pueblo. They will be assured success in cultivating the fields which they plant at the pueblo, because the lands are extensive, in a good climate, and can be easily irrigated, and they will be protected if the said intervening haciendas called "Las Huertas" are settled along with those extending from Las Barrancas, and those toward the abandoned pueblos of Alamillo and Sevilleta, whose natives are scattered and restless, and with the settlement of the said haciendas and the pueblo referred to, it will be possible to restore them to their pueblos. Continuing a distance of ten leagues, Socorro is found, which may be settled with the Indians who at present occupy this one of Socorro in this district of El Paso, and they may be joined

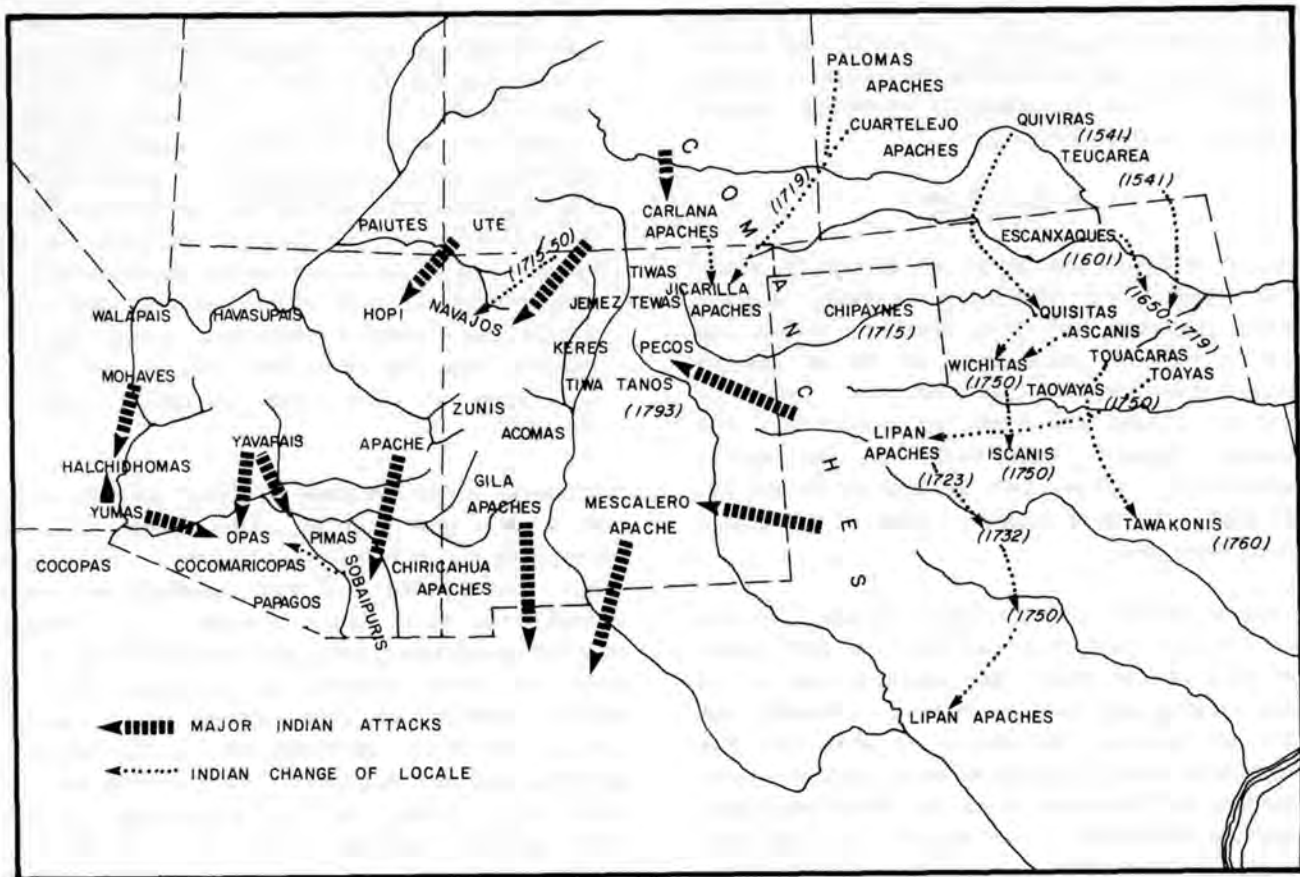
by the Piros, who are few and who live in the pueblo of Senecu in this district, for it is a vast and fertile land; it has its irrigation ditches, and some of the walls of the convent are in good condition. Senecu, which the Piros occupied previously, a distance of ten leagues away, should not be settled because the river has damaged the land, and furthermore it is on a frontier infested with many Apaches. If it is the wish of some to settle the abandoned haciendas, it will also prepare the way for the filling in and occupying of the land (Espinosa 1940: 286-287).

Settlement would not come so fast. Vargas spent more than a year fighting endless skirmishes in attempting to resettle the colony. By summer 1694, the pueblos had been subdued and were placed once again under Spanish rule. Vargas quelled an uprising among the northern pueblos in 1696, and many dissatisfied villagers fled to western pueblos or took refuge among nomadic groups (Simmons 1979:186-187). In effect, pacification was completed. As the 17th century came to a close the Rio Abajo and Salinas Province were virtually tenantless. Fertile farm lands would not lie fallow too long before Hispanic settlers would claim the productive Rio Abajo, but it would be many years before settlers came to the steppe-like plains of the Salinas Province.

EXPANDING FRONTIERS, 1696 - 1846

Raiders, Traders, and Settlers on the Northern Frontier of New Spain

Significant social, political and economic adjustments were made in the New Mexico colony following reconquest. The struggle between the encomenderos and priests was over, with both groups having lost their privileges, their lands, and their influence over the Pueblos. The encomienda was not reestablished in the colony, but was replaced by a system of granting lands to worthy settlers. The Franciscans were more tolerant of native religious and cultural practices, and the missions were no longer the far-reaching socializing institutions that they had been in early colonial times. The number of missions was greatly reduced, and accounts of priests and bishops who visited New Mexico in the 18th century observe that native ceremonials were more expertly performed than the sacraments of the Catholic church (Adams 1953-54:(29); Adams



Map 14. Indian Pressures and Shifts of the Late Spanish Period (1706 - 1820) [after Schroeder 1968: Fig. 5]. Reproduced by permission of New Mexico Historical Review.

and Chavez 1956:254-258). Pueblo and colonial governments were drawn together by their need for defense against increasing attacks by nomadic tribes.

Without doubt, one of the reasons Vargas was successful in securing the allegiance of the Pueblos was their need for arms and military aid. Vargas died while in pursuit of the Faraon Apaches in the Sandia Mountains in 1704 (Thomas 1940:7). The allied Pueblo and Hispano forces were tested time and again by the Comanches who attacked from their home range in the north-eastern plains, the Utes who came from the northwest basin country, and various Apache bands who attacked from the east, southeast, and occasionally the southwest (Map 14).

Under the reconquest governments, the Taos and Pecos pueblo-trade fairs were reinstated, and lively trade was practiced when the Plains Indians, Pueblos and Hispanic colonists were not at war. The Plains Indians brought buffalo meat, hides and tallow which they traded for horses,

knives and awls at the pueblos. The Pueblos obtained the horses, knives, and awls by trading with the colonists.

In trade, the colonists would receive the products brought by the Plains Indians as well as ceramics and textiles made at the pueblos. These fairs attracted Indians from more distant regions, namely the Southern Utes and the menacing Comanches. Comanches were first reported in New Mexico when they accompanied fellow Shoshonean-speaking Utes to the Taos trade fair in 1705 (Kenner 1969:28). The homeland of the Comanches had been the basin and range country at the headwaters of the Arkansas River in northeastern Colorado and western Kansas (Wallace and Hoebel 1952:8). They appear to have been forced south during the 1600s by northeastern tribes, who were no doubt allies of the French.

Northeastern and eastern New Mexico offered the Comanches both plains and sheltered mountain valleys for their nomadic life. Comanches and

Utes formed an alliance against the Plains Apaches, the Hispanos, and the Pueblos of New Mexico. By 1750 the tide turned, and the Utes and Apaches allied against the Comanches (Thomas 1940:29). Until a long-lasting peace was finally secured in 1786 (Thomas 1932:329-331), the Comanches alternately preyed upon and traded with the Pueblo and Hispanic villagers.

Spanish colonial governors tried various strategies to curtail Apache raids. During his first term, Governor Tomas Velez Cachupin (1749-1754) attempted to deter Apache raiders from entering the Rio Grande by way of the abandoned Salinas Province. Troops of allied Pueblo and Hispano fighters were stationed at the ruins of Coara (Quarai) and Tajique, as well as the "Bocas" de Abo (Thomas 1940:142; Jones 1966:127-128). Governor Pedro Fermin de Mindinueta (1767-1778) and Governor Juan Bautista de Anza (1778-1788) recommended the reorganization of colonial settlements to reduce the number of isolated ranchos and defenseless villages (Thomas 1932:379; 1940:16-18). Attempts to regulate the location and structure of settlements were not usually successful, nor were attempts to subdue the raiding parties. The Apaches were not pacified until a century later.

In the first two generations following Reconquest, the colony was largely confined to settlement in the Rio Arriba and the El Paso districts. Santa Fe, Albuquerque, Santa Cruz de la Canada, and El Paso were the major villages, but the colony had a predominantly rural settlement pattern.

In the final years of Spanish rule the colony stabilized and the Hispanic population grew significantly. Oakah Jones (1979) and Marc Simmons (1979) have assembled the Hispanic and Pueblo population figures given in various post-Revolt documents. The figures are presented in Table 16. The most reliable figures are those for the 1790 and 1817 censuses, both of which were based on data assembled by civil authorities. The figures of other years are estimates based on observations made by colonial governors, friars, or visitors to the province.

Dozier (1970:86-130) offers a third set of population figures based on data assembled by Jones (1966:153). In 1750, Dozier lists the population at 3,779 "settlers", and 12,142 Pueblos. The population figures for 1760 Dozier gives as 7,666 settlers and 9,104 Pueblos. In

1793, he lists 16,156 settlers and 9,275 Pueblos, and for the last year Dozier analyzes (1799) he lists the population at 18,826 settlers and 8,732 Pueblos.

Dozier believes that the apparent growth of the Hispanic population between 1750 and 1799 cannot be adequately explained by immigration or rising birth rates. Rather, he believes that the increase in the number of settlers is due to the rapid enculturation of Pueblo and nomadic Indians into Hispanic village life and Catholicism. The raw figures presented by any of the researchers are difficult to use for reconstructing colonial demography because of differences in the terms and estimators used by the colonial observers, as well as in the totals generated by Jones and Simmons. Nevertheless, the trends toward an increase in the number of people who shared Hispanic cultural values, and a decline in the Pueblo population, are clearly evident.

Before 1800 the total population of New Mexico was largely concentrated along the Rio Grande north of Belen. Given the limited distribution of farmland, the Hispanic villagers and Pueblos competed for access to arable land, in spite of laws intended to regulate and safeguard the location of Pueblo settlements and Hispanic land rights. Marc Simmons (1969) describes the various Hispanic and Indian settlement patterns reflected in 18th century documents. Simmons (1969:12-15) refers to three Hispanic settlement patterns as villas, poblaciones, and plazas. Villas were population centers arranged to include church lands, commercial districts, residential areas, and agricultural and grazing lands. Royal ordinances required that streets be established according to a grid pattern, but not one of the four New Mexico villas ever achieved such formality. Poblaciones were areas where dispersed ranchos were located. This was the most common form of settlement in newly occupied regions. A rancho would have consisted of one or more households situated adjacent to arable land. In times of danger the rancheros would congregate in fortified villages called plazas. Individual households were also fortified in some cases by enclosing the house and corral in a compact building plan (Conway 1961:6).

Three types of Indian settlements are described in 18th century documents. The pueblo, as a village plan, began in late prehistoric times and continued into the historic period. The number and distribution of Indian pueblos was greatly

Table 16
 Population of New Mexico, 1696 - 1821*

	1696	1744	1752	1760	1767	1776	1789	1790	1793	1800	1817	1821
	Vargas	Menchero	Cachupin	Tamaron	Lafora	Dominguez	Concho					
HISPANOS												
Families	70(J)	505(J)	676(J)	890(J)	1,487(J)							
Total	450(J)	2,500(J)	3,402(J)	4,614(J)	9,580(J)	5,819(J)	5,526(J-S)		22,851(J)	19,181(J)	27,157(J)	
PUEBLOS												
Families			1,950(S)	2,225(S)	2,703(J)	2,169(S)						
Total		1,535(J) 1,625(S)	5,967(S)	8,967(S)	10,524(J)	8,485(S)	8,456(S)		11,350(J)	8,173(J)	9,173(J)	8,716(S)
TOTAL		4,125(J+S)	9,369(J+S)	13,581(J+S)	20,104(J+S)	18,344(J)	13,982(J)	25,709(J)	29,041(J)	27,354(J)	36,579(J)	
						14,304(J+S)						

* Assembled from Simmons (1979:185)[S] and Jones (1979:122-129)[J].

reduced during the revolt and post-revolt times. Within the central New Mexico overview area, only Isleta Pueblo continued to be occupied into the last phase of Spanish colonial administration of the colony. Throughout the colonial period efforts were made to induce nomadic Apaches, Navajos, and Comanches to establish permanent settlements, which were referred to as reducciones (Simmons 1969:16). A third class of Indians were the Christianized Indians known as genizaros, living in villages practicing a blend of Pueblo and Hispanic cultural traditions (Swadesh 1974; Horvath 1977 and 1979; Chavez 1979). Genizaros were often sent to settle frontier communities, such as Cerro de Tome and Valencia which were built south of Albuquerque in 1739 and 1740, respectively (Hackett 1937: 401-402; Chavez 1979:199). Belen was also settled at this time, and probably overlapped with Los Jarales (SANM I:869). Los Jarales, another genizaro village, was settled later, and by 1776 had 209 people in 49 families (Chavez 1979:199). These genizaro villages served to buffer the colony from Apache attacks (Thomas 1940:18).

The Camino Real was the lifeline connecting colonial centers at Chihuahua, El Paso, and Santa Fe. Though there were well-established camps along the route, it was a dry, desolate trip lasting 40 to 50 days between Santa Fe and Chihuahua. The ruins of the Piro pueblos and pre-revolt haciendas were among some of the stopping places (parajes) noted by Bishop Pedro Tameron y Romeral in 1760 (Adams 1953-54:(29)), by Fray Agustin de Morfi in the period 1778-1782 (Thomas 1932), and by the increased numbers of caravans of traders and colonists (Moorhead 1958). However, the presence of Apaches and Comanches along the southern Rio Grande kept the colonists at bay throughout the 18th century (Thomas 1940:62-64; Kenner 1969:49).

As early as 1693 Vargas endorsed the feasibility of settlement of the Rio Abajo. An investigation of the fiscal matters related to resettlement was requested in 1772 (Thomas 1940:43), and resettlement was made a royal requirement (SANM I:1171). No doubt this requirement resulted from some overcrowding in the existing settlements. It was not until 1800 that Governor Fernando Chacon (1794-1805) was officially instructed to begin resettlement in the vicinity of Socorro.

Governor Chacon was instructed to mark lands for construction of a church, designate lands for

houses, establish the limits of farms and lay out streets. An army of 15 to 20 men was to clear the acequias, and construct barracks. The orders further stated that these men were to be married and in possession of their own household equipment. Permission was given to purchase oxen and farm tools for distribution to the settlers. In no case, however, could settlers come to the new town if emigration would weaken their home community. The Governor was cautioned against weakening the village of Sabinal, located between Belen and Socorro (SANM I:1171). The new town was to preserve the name and patron saint of the original Socorro settlement.

In March 1800, the Governor submitted a report of the progress being made in the resettlement of the Piro pueblos (SANM I:1155). After inspecting the lands surrounding Socorro, Sevilleta and Alamillo, the Governor determined that Alamillo could be resettled in the shortest amount of time. Sixty-two families and 21 soldiers were sent to Alamillo. The settlers were so poor that they had to be provided with one year's provisions, firearms, seed for crops, tools, and oxen. The bill shown in Table 17 was submitted with the Governor's report.

The provincial governor was directed to begin settlement of Alamillo in June 1800, and to wage "vigorous" war against Indians, presumably Apaches, living in the San Mateo and Magdalena Mountains. Further, he was directed to resettle Socorro, then Sevilleta, and Senecu (SANM I:1199). An unsigned report, dated July 5, 1800, states that the settlers of Sevilleta had constructed a fortified plaza and had planted garden and forage crops (SANM I:1266). This seems inconsistent with the order to settle Alamillo first, but a letter to the New Mexico provincial governor dated August 1, 1800 grants permission to settle Alamillo and Sevilleta concurrently in order to economize on planting crops and repairs to acequias.

Alamillo is seldom mentioned in the literature after 1800. Sevilleta was well established by March 1805, when the Governor of New Mexico sent a surgeon (Cristobal Larranaga) to vaccinate children in Sabinal, Sevilleta, and the "paraje" of Valverde against smallpox (Bloom 1924:5, 7). Sevilleta was described by Zebulon Pike in 1807 as the last settlement before entering the "wilderness" on his forced march from La Jara, Colorado to Chihuahua (Jackson 1966:4-7-408).

Table 17

Statement for the New Settlement of Alamillo *

		Pesos, reales, gr.		
Oxen	60			
Steel Coal Axes	12	047	0	00
Iron Crow Bars	4	146	0	00
Chisels	4	005	2	03
Adze	12	026	4	00
Plowpoints and Nails	16	033	4	00
Hoes--half mark.	18	041	2	00
Trowels	6	007	4	00
Almud and half-almud (measures)	2	000	4	00
Adobe molds	12	003	0	00
Shovels	12	001	4	00
Cow hides, straps, barrows	24	002	0	00

Gross Amount 730-4-3

Weapons and ammunition delivered to Don Antonio de Arce

8 lbs. of gun powder	12 old firearms belonging to the king
400 small loose bullets	20 caliber packages [?]

600 pesos for 400 fanegas of corn for the maintenance of the settlers

*
from the WPA translation of the S.A.N.M. I:1155

Sibilleta (sic) is situated on the east side (of the Rio Grande) and is a regular square, appearing like a large mud wall on the outside, the doors, windows and (sic) facing the square, and is the neatest and most regular village I have yet seen.

Pike remarked that Sevilleta was the meeting place for the annual caravan journeying to the south. During the time he was there 15,000 sheep had been herded for the drive through the Jornada del Muerto to Chihuahua. A guide with Pike's party told him that Sevilleta was the location of recent battles with Apaches. Sevilleta was still a frontier settlement in 1812 when Pedro Bautista Pino traveled to the Cortes in Spain to report on conditions in New Mexico (Carroll and Haggard 1942:69). Pino recommended that a presidio be established in the old town of Socorro, and that the wall surrounding Santa Fe be disassembled and sold so that the proceeds could be used to rebuild a much needed presidio at Valverde (Carroll and Haggard 1942:71, 79).

A circular, dated July 5, 1815, sent to all

jurisdictions sought the names of industrious colonists to resettle Socorro, San Pascual, and the "ancient pueblo of Manzano" (SANM I:1104). The circular stated that these settlements were needed to help solve the problem of insufficient farm land for settlers. In November 1817, and again on August 1, 1818, a representative of the 70 "residents of the new settlement of the abandoned Pueblo of Socorro" petitioned the provincial governor for the official documents of settlement (SANM I:890 and 382).

The Spanish, and later the Mexican, governments issued land grants to encourage orderly settlement of lands not occupied by the Pueblos. Grants of various types were made. Lands were granted to individuals for meritorious service to the Crown, or were sold to persons of means to add revenue to colonial coffers. Individual land grants were considered private property, and often changed names as they were sold or inherited. Community land grants were made to groups of people for the establishment of town sites or settlements consisting of individual allotments for home sites (sitio) and farmlands

(suerte) and areas designated for communal grazing lands (ejido). Regardless of the type of grant, provisions for improvements had to be fulfilled before the title to the land was confirmed. In most cases improvements included residency requirements, construction of individual and communal structures and facilities, cultivation of arable lands, and, in some cases, maintenance of a militia (Swadesh 1974:17).

The documentation of the types of settlements and facilities built on any of the colonial period grants is scant. Records of the Spanish Archives of New Mexico contain, in most cases, only the names of the settlers, the date of the claim, a vague description of the boundaries, and a reference to the proposed use of grant lands. Proceedings of the boundary adjudication hearings conducted in Territorial courts contain much information collected in an attempt to precisely define the limits of the land grant claims and to trace the settlement history of the lands, but contain little information about settlement patterns and land-use practices. A brief historical sketch of the colonial land grants within the Central New Mexico Overview area is given in Table 18.

Diego de Padilla appears to have been among the first Hispanos to reclaim land occupied by his family before the Pueblo Revolt. The Lo de Padilla land grant encompassed lands between Isleta on the north, the Sandia Mountains on the

east, the Rio Grande on the west and the former hacienda of Francisco de Valencia on the south (Surveyor General Case 248: Reel 30). The colonial documents are incomplete, but 1718 is usually given as the date of the grant (Bowden 1969:1634). Residents of Socorro received title to lands in 1818, but these early documents of Socorro history were destroyed in a fire (Bowden 1969:181-182).

Carlos Gavaldon, on behalf of 68 residents of Nuestra Senora de los Dolores de Sevilleta, requested title to lands of the former pueblo of Sevilleta in May 1819 (SANM I:214; Survey General Case 95: Reel 22: Frames 13-16). In June 1819 the grant was confirmed, and the boundaries established as Sabinal at the ruins of the hacienda of Felipe Romero on the north, Alamillo Arroyo on the south, the Ladrones Mountains on the west, and east to the "opposite" side of the San Lorenzo Arroyo. The north boundary of the Sevilleta Grant was in conflict with the south boundary of the earlier established Belen Grant. Both used the ruins of the hacienda of Felipe Romero, a landmark that would become the subject of considerable debate in the later hearings of the Surveyor General.

Pedro Ascue de Armendaris, Collector of Tithes and formerly first Lieutenant of the garrison at San Elizario in Chihuahua, petitioned the Governor of New Mexico in November 1819 for a tract of land at Valverde (Surveyor General Case

Table 18

Spanish Land Grants in the
Central New Mexico Overview Area

Applicant	Name of Grant	Petition Date	Date of Possession
Diego de Padilla	Lo de Padilla	1718	1718?
Carlos Gavaldon	Town of Socorro	1818	1818
For 68 residents	Nuestra Senora de los Dolores de Sevilleta	1819	1819
Pedro Armendaris	Valverde Grant	1819	1819
	Fray Cristobal Grant	1820	1820
	Addition to Valverde Grant	1820	1820
Bartolome Baca	Bartolome Baca Grant	1819	1819

33: Reel 16: Frames 29-32). Although the stated purpose was for land to cultivate and as pasturage for livestock, Armendaris also pointed out that the tract was along the Camino Real and would be used by travelers. Valverde was a well-established paraje as early as 1805 (Bloom 1924:5). The land at Valverde was inspected by colonial administrators in late November and found to be unoccupied. This raises some question about the types of facilities and structures built at parajes, as well as questions about whether the land was really inspected. The Valverde Grant was confirmed on December 4, 1819. The stipulations of the grant were that Armendaris begin construction of corrals, houses, and enclosures for fields, that his men be well armed, and that travelers be furnished with water and feed for their animals. Armendaris petitioned for additional land in May 1820, claiming that he had already established a large hacienda, outbuildings, corrals and a farm on lands within the original Valverde Grant (Surveyor General Case 33: Reel 16: Frames 36-39). Additional lands, including the Ojo del Muerto, Analla Springs, and other more arid lands in the Jornada del Muerto, were conveyed to Armendaris on June 1, 1820 as the Fray Cristobal Grant. At the same time lands to the northwest of the Valverde Grant were given to Armendaris to accommodate his rapidly expanding sheep herds (Surveyor General Case 34: Reel 16: Frames 16-17).

Bartolome Baca, Captain of the volunteer militia of Albuquerque and a resident of Tome or San Fernando, petitioned the Governor for a tract of land east of the Abo Mountains in February 1819 (Surveyor General Case 126: Reel 24: Frames 23-24). The land, known as the Torreon, included the Monte del Cibolo on the north, Ojo del Cubero on the South, Estancia Springs on the east, and the Abo Mountains in the west. Baca intended to use the grant as a ranch for pasturing sheep, cattle, and horses under the watch of herders and armed men who would protect them from roving enemy Indians. Baca also pledged to cultivate those lands he could irrigate from spring-fed reservoirs he intended to construct. The lands were inspected in September 1819, and subsequently conveyed to Baca to oversee settlement.

In the last three years of Spanish rule lands below Socorro and east of the Manzano Mountains were claimed, if not actually settled. The era of Spanish rule came to an end in 1821 when New Mexico became part of the Independent Republic of Mexico under the Treaty of Cordova. Mexican rule

lasted only 27 turbulent years (1821-1846) in New Mexico. That short time was marked by the expansion of settlement beyond the Rio Grande corridor, and the growth of commercial networks that transformed New Mexico from a terminal point to a critical link in North American trade (Meinig 1971:19, 24).

Mexican Frontier Settlement Patterns

The Mexican Government continued the colonial practice of granting lands for settlement and grazing tracts. In fact, under Mexican administration more land was settled and more grants were made than in the long Spanish occupation of New Mexico (New Mexico State Planning Office 1971:19). Grants expanded the Mexican claim to lands that were coveted by the Republic of Texas (established in 1836), and threatened by the United States policy of Manifest Destiny. Procedures for acquisition of lands were somewhat modified in this period. The Colonization Law of Iturbide, enacted in January 1823, provided for two types of land grants - the empresario grant, and grants made by the ayuntamiento (Land Title Study 1971:21).

The empresario grant was made by the governor to a promoter who contracted for colonization of a designated area. The empresario was required to settle about 200 families on the land, and to complete settlement within 12 years in order to retain the grant (New Mexico State Planning Office 1971:21). The Land Title Study states that no empresario grants were made in New Mexico, but this statement appears to be contradicted by petitions and testimony in various land grants made during the terms of Governor Manuel Armijo (1827-1829; 1837-1844; 1845-1846), one of New Mexico's most controversial political figures.

Individuals could receive grants by appeal to the ayuntamiento, or town council. The Colonization Law defined five land measurement terms which corresponded with different land-use patterns (New Mexico State Planning Office 1971:21-22). A vara, the basic unit of land measurement, measured three geometrical feet. A labor was a square, 1,000 varas on each side, granted to farmers. Stock raisers received at least a sitio, which was a square league, or 5,000 varas on each side. A hacienda consisted of five sitios.

The Colonization Law was amended in 1824, giving

preference to Mexican citizens and limiting grants to individuals to 11 leagues. The 11 leagues were divided into tracts for grazing of no more than six leagues, one league of arable land, and four leagues of land "dependent on the season" (New Mexico State Planning Office 1970:22). Frequent changes in the official authorized to make grants and the procedures for obtaining title in the Mexican period would later cause problems for the territorial adjudicators.

Although Navajo raids caused the abandonment of the Armendaris Land Grants in 1824 (SANM I:1217), and the abandonment of the Bartolome Baca Land Grant in 1833-1834 (Surveyor General Case 126: Reel 24: Frame: 40), the area of Hispanic settlement expanded in the Mexican period. Meining (1971:27) has characterized the expansion

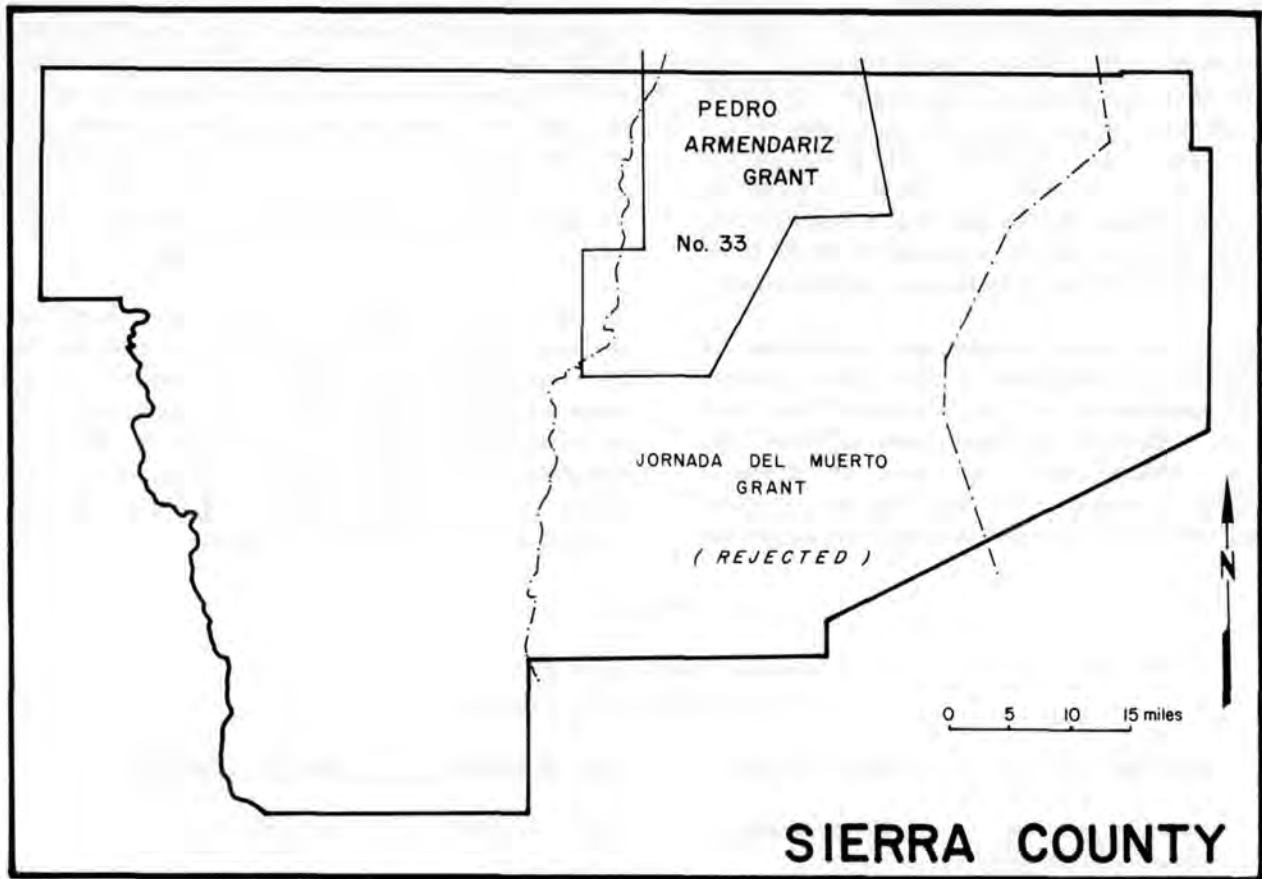
of settlement in this period as "a little known event of major importance." At least 11 land grants were made in the Central New Mexico Overview Area during the Mexican period (Maps 15, 16, and 17). The majority of these grants were in the former province of the Salinas Pueblos, east of the Manzano Mountains. A short account of the founding of each grant is given in Table 19.

In July 1823, peasant farmers who had been working land near the settlement of Manzano for Bartolome Baca petitioned for a grant of land known as the Casa Colorado. They were responding to a provincial decree, dated June 23, 1813, to consolidate scattered ranchos into plaza-centered towns in order to protect the settlers against Indian attacks (Surveyor General Case 29: Reel

Table 19

Mexican Land Grants in the
Central New Mexico Overview Area

Applicant	Name of Grant	Petition Date	Date of Possession
Jose Maria Perea and 42 residents of the town of Manzano	Casa Colorado	July 12, 1823	July 30, 1823
Antonio Chaves	Arroyo de San Lorenzo	February 16, 1825	April 20, 1825
Manuel Trujillo and 67 others	Town of Manzano	September 22, 1829	November 28, 1829
Nerio Antonio Montoya	Nerio Antonio Montoya	February 28, 1831	December 12, 1831
Manual Sanchez and 19 others	Town of Tajique	March 9, 1834	December 24, 1834
Jose Chavez Garcia de Noriega	Nuestra Senora de Guadalupe Mine	December 24, 1840	October 21, 1842
27 residents	Town of Torreon	February 15, 1841	March, 1841
Santiago Padilla and 26 others	Town of Chilili	March 8, 1841	March 20, 1841
Antonio Sandoval	Town of Estancia Bosque del Apache	October 5, 1845 November 24, 1845	October 7, 1845 March 7, 1846
Juan B. Vigil-Alarid, Antonio Jose Rivera, Michael Houck	Jornada del Muerto	December 28, 1845	March 5, 1846



Map 15. Spanish and Mexican Land Grants in Sierra County, New Mexico (after Bowden 1969:146).

12: Frame 8). The grant was located between the southern boundary of the Tome Grant and the ruins of the pre-Revolt settlement of Las Nutrias. Casa Colorado was a prosperous hacienda and trading establishment operated by the Chaves family when the Texan-Santa Fe expedition passed through in 1841 (Kendall 1847:394-395). Casa Colorado was an established rancho on the Camino Real throughout the Mexican Period (Moorhead 1958:10).

Antonio Chaves of Belen appealed to the Provincial Deputation on February 16, 1825, seeking lands on which to expand his farming and ranching business (SANM I:218; Surveyor General Case 79: Reel 21: Frames 10-12). The lands that Chaves requested overlapped with the Socorro and Sevilleta grants. The Governor, Bartolome Baca, believed, however, that the benefits of settlement at the Arroyo San Lorenzo outweighed the legal complications of overlapping lands. He listed as benefits that the settlement would block one of the access routes by which the "savages" attacked Socorro and Sevilleta, that Chaves might serve as an example to others who

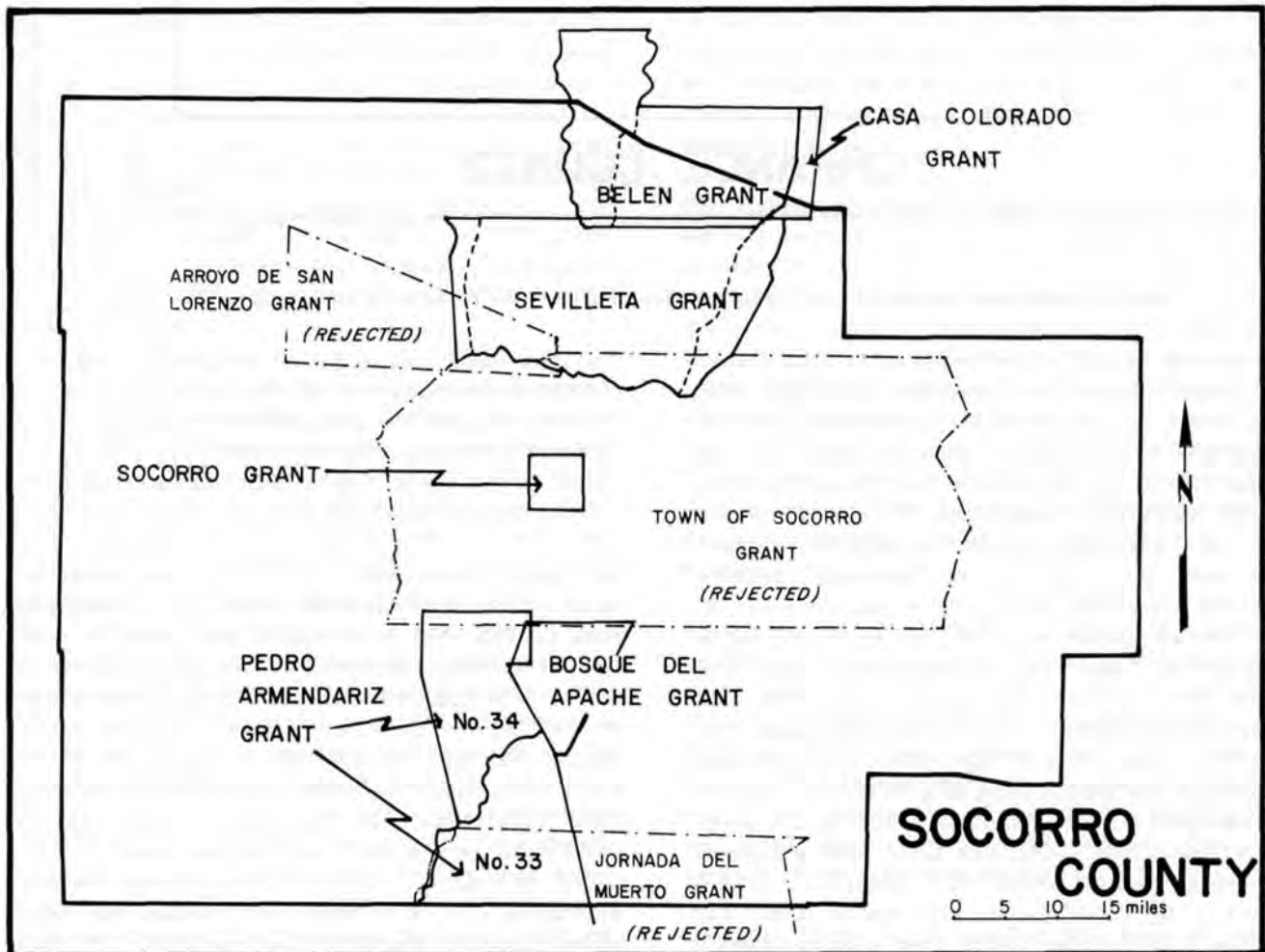
would resettle the Bosque del Apache and San Pascual, that Chaves could provide employment for many peasants, and finally, that residents of Socorro and Sevilleta had sufficient grazing lands (Surveyor General Case 79: Reel 21: Frames 12-14). Baca also justified his actions by stating that Chaves had lost a substantial number of livestock to Navajo raids and needed less crowded conditions than those of Belen in which to reestablish his herd. What Baca did not say was that the Arroyo de San Lorenzo Land Grant might serve as a buffer to protect his substantial holdings from attack as well. The lands were delivered to Chaves in April 1825, and remained in the Chaves family until 1850 when they were sold to the Luna and Garcia families (Surveyor General Case 79: Reel 21: Frame 27).

On September 22, 1829 a representative of the town of Manzano petitioned the ayuntamiento of Tome for lands extending from the Torreon, a landmark within the Bartolome Baca Land Grant, to the old mission of Abo, and from the Mesa de los Jumanes to the mountains on the west, no doubt the Manzano Mountains (SANM I:1013). From

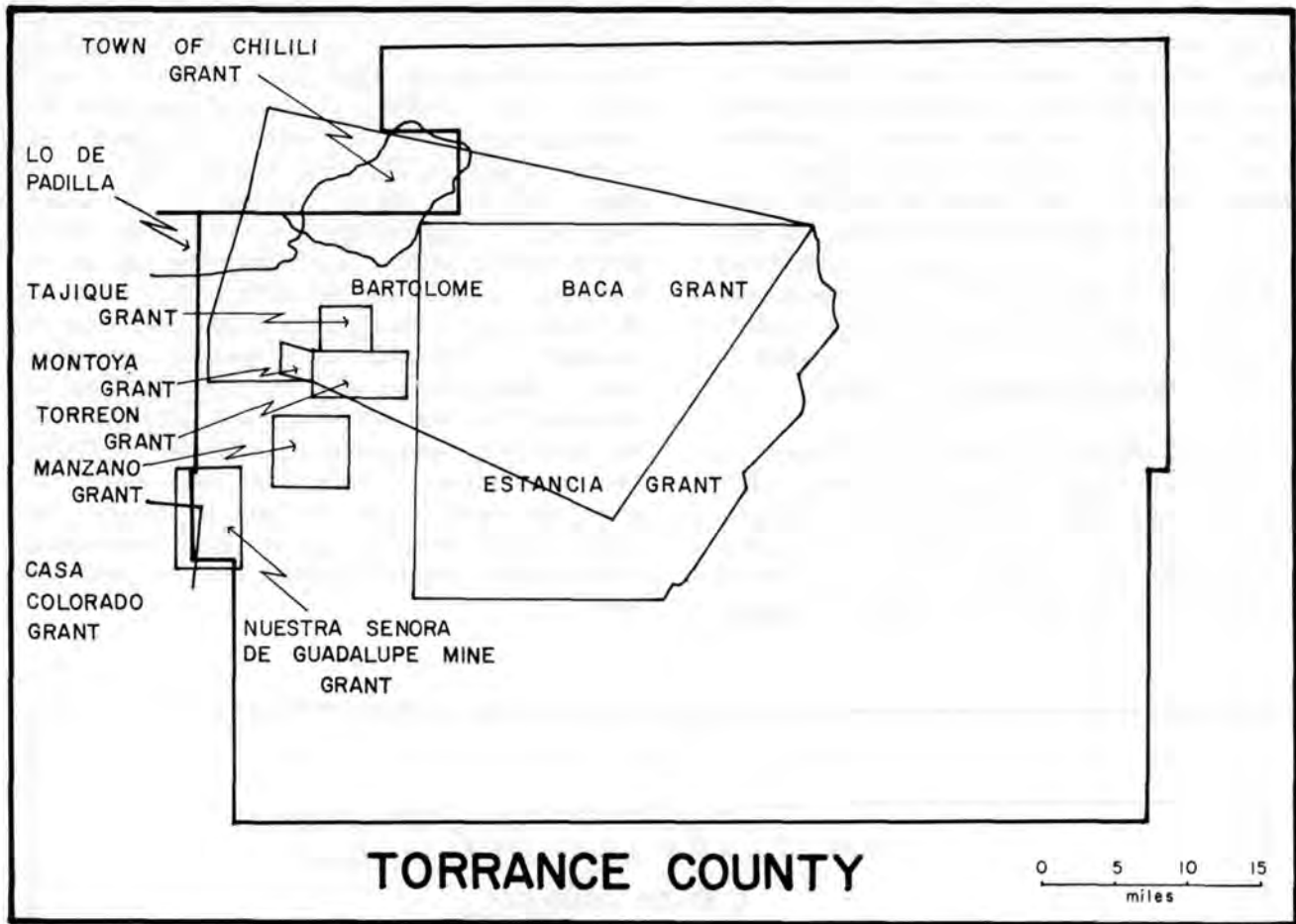
testimony in the Casa Colorado Land Grant case, and from documents found in the records of the Manzano Land Grant Commission (Hurt 1941a:29) it appears that Manzano was a recognized settlement as early as 1823. Settlers pledged to construct a town site, to cultivate arable lands, to contribute labor to the community and to defend it against attack (Surveyor General Case 23: Reel 15: Frame 18-21). The ayuntamiento considered the grant and noted that the arable lands were within the Baca Land Grant. With Baca's permission, four square leagues were granted to the town of Manzano on November 28, 1829.

Nerio Antonio Montoya of Valencia petitioned the ayuntamiento of Tome for one-half league in a canyon, one league from the town of Manzano. Montoya's petition, dated February 28, 1831, explained that the lands that his wife would inherit in Valencia would be too small to support

their large family (Surveyor General Case 51: Reel 18: Frame 7-8). He does not say anything about lands that his natal family might have held in the area. Perhaps this means only that he recently migrated to New Mexico. The land that Montoya sought included the highest part of the Canyon Mountain ridge, the Apache Rancheria (evidently a topographic feature) on the east, Cubero Spring on the south, and the Ojo de en Medio on the west (Surveyor General Case 51: Reel 18: Frame 9-11). Montoya was granted the land on November 12, 1831 and took possession one month later. When Montoya sold the grant in 1848 he transferred to the new owners not only title to the land, but substantial improvements including 424 grape vines, a three-room wood house, 86 peach and apple trees, 19 jars of brandy, the rights to the acequia, and the wall surrounding the vineyard (Surveyor General Case 51: Reel 18: Frame 12).



Map 16. Spanish and Mexican Land Grants in Socorro County, New Mexico (after Bowden 1969:162).



Map 17. Spanish and Mexican Land Grants in Torrance County, New Mexico (after Bowden 1969:216).

The Town of Tajique Grant was another made within the boundaries of the original Bartolome Baca Land Grant. Manuel Sanchez, a representative of 20 residents of Valencia, petitioned for one-half league, north of the Torreon Land Grant on March 9, 1834 (Surveyor General Case 21: Reel 15: Frame 13). The grant was needed to provide adequate farm land not available at Valencia. Because planting season was near, the acting Governor of New Mexico permitted the settlers to begin cultivation, with the understanding that the grant was subject to confirmation by the departmental assembly (Surveyor General Case 21: Reel 15: Frame 14-15). The Alcalde of Valencia subdivided the arable land into seventeen tracts, one assigned to each family residing on the grant in December 1834, when the grant was confirmed (Surveyor General Case 21: Reel 15: Frame 15-16). In addition to the arable land the alcalde allotted land for a town site and common grazing land. The boundaries were established in the most general terms:

on the north, at a pine tree marked with a cross in the Canon de los Migas; on the east, at a lone pine; on the south, at a thicket of cedars a little above the Canon de los Pinos; and on the west, at a pine marked with a cross on the Mesita de la Cueva.

Two other grants were made within the original claim of the Bartolome Baca Land Grant. One was made to the town of Chilili, the other to the town of Torreon. Governor Manuel Armijo issued a decree granting lands of the former Tiwa Pueblo of Chilili to Santiago Padilla and 26 other people (Surveyor General Case 11: Reel 13: Frame 5-6). The tract extended from the Ojo de Los Casos (Las Casas?) on the west, to the brow of the Cibola on the east, and on the south to the Canyon of Chilili. The northern boundary was not described, but the tract was limited to four square leagues (Surveyor General Case 11: Reel 13: Frame 18). Armijo required the poverty stricken group of settlers to remain upon the

property for a period of four years in order to retain title to the tract (Surveyor General Case 11: Reel 13: Frame 4-6).

Testimony of witnesses to the Surveyor General taken in 1881 states that the original town site of Chilili was abandoned about six years after the grant was made because the water supply diminished. One woman, describing the plight of the townspeople, said that the women wore the hair off their heads carrying jars of water to the town (Surveyor General Case 11: Reel 13: Frame 51-54). A new plaza was established three miles south of the original town, but not all of the residents moved to it. Some people returned to their home villages along the Rio Grande (Surveyor General Case 11: Reel 13: Frame 83-84).

The Torreon Land Grant was petitioned on February 15, 1841 by Nerio Antonio Montoya on behalf of 27 residents of Valencia (Surveyor General Case 22: Reel 15: Frame 1-2; 16-17). Their petition asked for a tract of land in the vicinity of Torreon Spring, near the old farm of Bartolome Baca, where they might raise crops needed to support their families. The Alcalde of Tome supported the claim of the petitioners saying that they had not sufficient farm lands in Valencia. The grantees were placed in possession of the grant in March 1841, each resident receiving 100 varas of farm land (Surveyor General Case 22: Reel 15: Frame 5-6; 20-11).

In the last year of Mexican rule three land grants were made within the Central New Mexico Overview area. Antonio Sandoval, a prominent and wealthy resident of Albuquerque, received three land grants during the years of Mexican rule. These lands were primarily grazing tracts, and were in addition to lands that he controlled near Albuquerque (Surveyor General Case 154: Reel 28). Two of the three grants were within the Central New Mexico Overview Area; they were the Bosque del Apache and Estancia Land Grants. The first land grant Sandoval received was the Agua Negra Land Grant, a grazing tract located on the Pecos River (Surveyor General Case 35: Reel 16). The Bosque del Apache Land Grant was located on the Rio Grande, south of the Socorro Land Grant, east and north of lands claimed by Pedro Armendaris. Sandoval requested the tract, to be used for farming, on November 24, 1845, and was placed in possession of the land on March 7, 1846 (Surveyor General Case 35: Reel 16: Frame 1-3).

Sandoval received the extensive Estancia Springs Land Grant in October 1845. He requested that the lands be given to him in consideration of his long and distinguished record of service to New Mexico, and to repay the substantial loans he had made to the government (Surveyor General Case 70: Reel 20: Frame 20, 31). Sandoval later conveyed the grant to his nephew Gervacio Nolan in 1848 (Surveyor General Case 70: Reel 20: Frame 16).

The Jornada del Muerto Land Grant was the last Mexican period grant made in the study area. The Jornada del Muerto, 125 miles long and six days travel through a barren, waterless desert, separated El Paso del Norte and Socorro. Juan Bautista Vigil-Alarid, Antonio Jose Rivera, and Michael Houck petitioned Governor Armijo for a grant in the Jornada on December 28, 1845. They requested lands bordered by the Mesilla de Contadero on the north, Robledo on the south and the Rio Grande on the west (Surveyor General Case 26: Reel 16: Frame 2-3). The petitioners pledged to dig two water wells along the Camino Real for the use of travelers, to employ convict laborers, and to establish a garrison for the protection of travelers (Surveyor General Case 26: Reel 16: Frame 12-14).

The Jornada del Muerto grant overlapped with the Armendaris-Fray Cristobal Land Grant. Although Armendaris left the land in 1824 after being repeatedly attacked by Navajos (SANM II:3069), he still held claim to the lands and protested the boundaries of the Jornada del Muerto Land Grant (SANM I:1217). Rivera and Vigil were forbidden to begin any improvements on the land until the suit by Armendaris was settled. The "invasion" of New Mexico by the United States Army of the West in August 1846 halted further consideration of the Armendaris claim to the Jornada del Muerto.

Mining did not come to be an important economic venture in the Central New Mexico Overview area until the mid 19th century, but a valuable mineral deposit would not go unclaimed. In December 1840, Jose Chavez Garcia de Noriega applied for a grant of land containing a silver vein. The boundaries of the claim, located two to three leagues south of Manzano, read as vaguely as any treasure seeker could expect:

on the north, by a cave at the foot of the Manzano Mountain; on the east by two large pine trees; on the south, by a white bluff

having the form of a pillar; and on the west, by a very thickly wooded arroyo.

Garcia was placed in possession of the Nuestra Senora de Guadalupe Mine on October 21, 1842. Two weeks later Garcia received additional lands on which to graze animals used at the mine, and land where he could build a smelter and housing for the miners (Court of Private Land Claims n.d.: Frames 1-2). Almost immediately after receiving title to the mine and surrounding lands, Garcia relinquished the property to the Alcalde of Tome, Jose Pino, in payment of a debt. Pino owned the mine until 1846. Josiah Gregg (Moorhead 1954:124), who was a visitor to New Mexico between 1831 and 1840, says that the mine was not profitable because of the hard matrix in which the vein was encased.

By the close of the Mexican period there were settlements of many different types and sizes east of the Manzano Mountains as well as along the Rio Grande. Bloom (1913-15:(1) 14-15) lists those settlements that were on the mail route between New Mexico and Chihuahua in 1833. In the Rio Abajo, he lists eleven settlements classified by size and administrative organization:

1. Valverde _____ Rancho
2. Sabinal _____ Plaza
3. Belen _____ Pueblo and Ayuntamiento
4. Sandia _____ Pueblo
5. Casa Colorado __ Plaza
6. San Fernando __ Plaza
7. Jarales _____ Plaza
8. Sevilleta _____ Plaza and Pueblo
9. Enlames _____ Plaza
10. Socorro _____ Pueblo and Ayuntamiento
11. Socorrito _____ Plaza

Moorhead (1958:107) lists the towns and campsites along the Camino Real. The stops include those settlements on Bloom's lists, plus Rancho de la Parida, the Hacienda of Luis Lopez (located on both sides of the Rio Grande), and the parajes at Valverde and Fray Cristobal (Map 18). To the lists of Bloom and Moorhead can be added the plaza settlements at Manzano, Chilili, Tajique, and Torreon, and the ranches established by Bartolome Baca, Antonio Chaves, Nerio Antonio Montoya and Antonio Sandoval on their respective land grants. The types of structures and facilities built by rancheros and shepherders on grazing land grants are not generally described in land grant documents or recorded among the observations of travelers. Likewise, the Rio



Map 18. The Camino Real in the 18th and Early 19th Centuries (after Moorhead 1958:10).

Grande settlements located on the Camino Real, or as it later was called the Chihuahua Trail, have been described by traders and travelers, while the settlements located east of the Manzano Mountains are not well documented in the Mexican Period archives.

The change of name from the Camino Real to the Chihuahua Trail was the result of a policy that would have far-reaching consequences for trade patterns in North America. Trade between the United States and New Mexico began in 1821 when

Mexico lifted the Spanish ban on trade with foreign governments. The Santa Fe Trail refers to those routes (Map 19) that connected the two countries, along which flowed goods manufactured in the United States and the products of New Mexico mines, traps, and herds. American traders expanded their markets into Chihuahua and California in the 1830s, thereby creating in New Mexico an important depot for trade south and west (Meinig 1971:19). The most widely read and objective chronicle of the Santa Fe and Chihuahua trade is "Commerce of the Prairies", written by Josiah Gregg in 1844, which describes the natural and cultural environments of New Mexico and Mexico in the period 1831 to 1840.

Of the settlements within the Central New Mexico Overview area, Gregg has little to say, except to reinforce the picture of the southern Rio Abajo and Manzano Mountains as "wilderness" or frontiers. Gregg passed through the southern New Mexico settlements on his way to Chihuahua, most likely in August 1835. Ten days journey from Santa Fe brought Gregg to the southern-most settlements, which the editor of his journal lists as La Joya de Sevilleta, La Parida and Socorro (Moorhead 1954:269 fn 9). Thirty miles beyond the last settlement Gregg came to the ruins and deserted farms of Valverde, which he says were abandoned in 1825 after repeated Navajo attacks (Moorhead 1954:269).

From Valverde to El Paso Gregg records no settlements, only a series of parajes where travelers camp and water their livestock (Maps 18 and 19). Gregg notes that even mails do not travel regularly over the Chihuahua Trail because of increasing Indian attacks (1954:267), a point reiterated by Bloom (1913-15:(2) 37). Bloom suggests that the increasing raids on Rio Grande villages in the 1830s were a result of decimation of plains buffalo herds, which caused nomadic Indians to raid Rio Grande sheep herds.

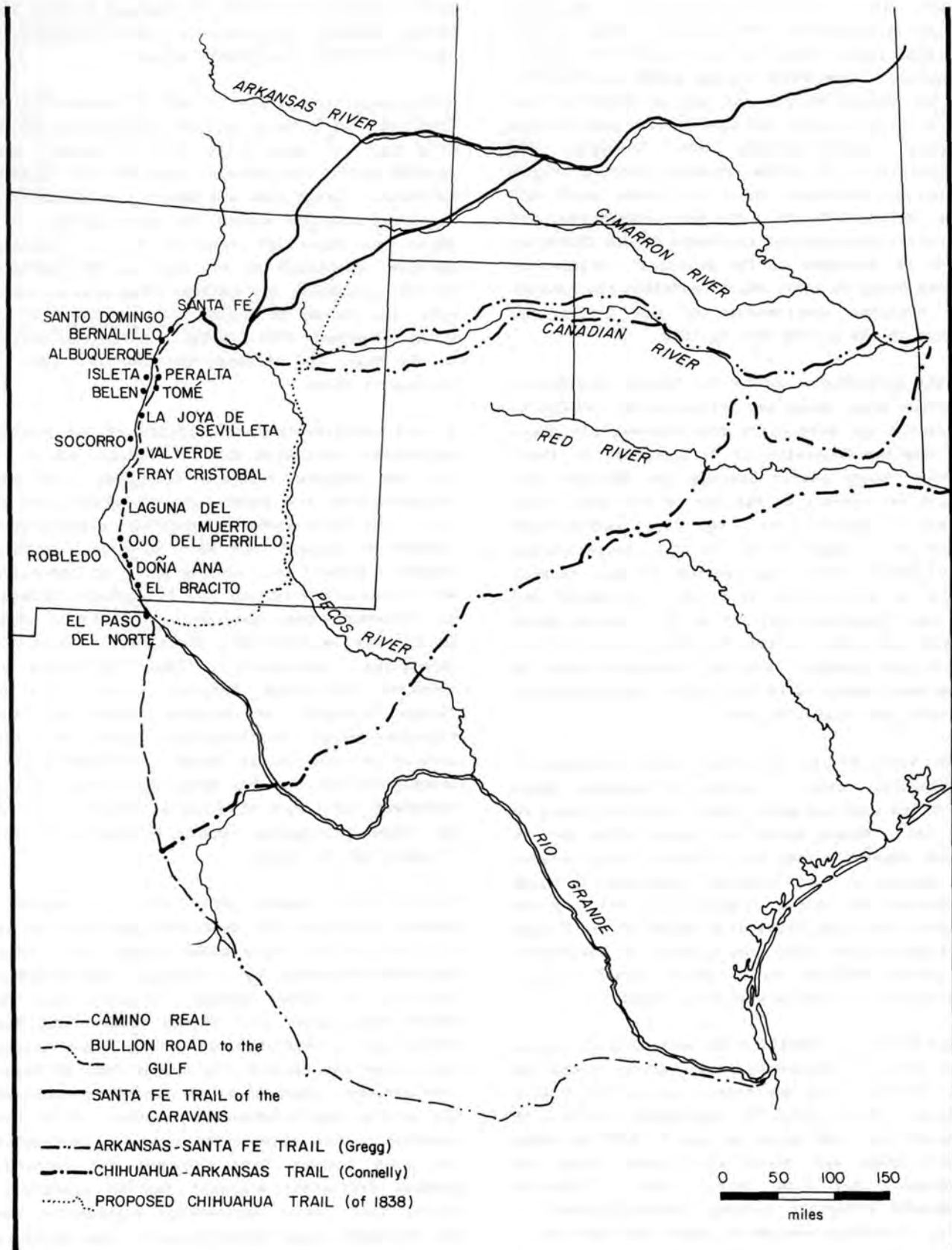
Other documents (McNitt 1972) show that the raids were primarily staged by Navajo groups attacking from the west and northwest, and not by Plains Indians. McNitt (1972:75) describes an attack on Lemitar that took place on June 5, 1835 in which 1,000 sheep and goats were taken from the townsmen. Two days later, June 7, Navajos stampeded livestock through Socorro plaza. A group of Socorro residents chased the Navajos to Ojo de la Culebra, in the Magdalena Mountains west of Socorro, but were so greatly outnumbered that they abandoned the chase (McNitt 1972:75).

Trade caravans were often accompanied by military escorts through the Jornada del Muerto to protect them from Navajo and Apache attacks.

Trade along the Santa Fe and Chihuahua Trails does not seem to have had much contact with or to have been of benefit to the settlements and ranches along the eastern slope of the Manzano Mountains. Gregg mentions the village of Manzano in connection with mining the saline lakes. The lakes, an important resource to the Salinas pueblos, continued to be used in the Mexican Period. Although the salines were public property, the danger of Apache attack, according to Gregg (Moorhead 1954:124-125), inhibited access to the salt, and inflated the price of salt in the market place.

A less complimentary description of New Mexico was written by George Wilkins Kendall, editor of the New Orleans Picayune newspaper, who was arrested with the Texan-Santa Fe Expedition in 1841. The Texan-Santa Fe Expedition members were accused of spying, and were arrested near San Miguel. Kendall was with a party of prisoners who were marched through the Rio Grande villages to Chihuahua where they were imprisoned. When Kendall was released he wrote a narrative of the expedition, published in 1844, in which he condemns everything Mexican (Kendall 1847). Thomas Falconer, an English lawyer who was traveling with the Americans, also left his memoirs of the forced march. Falconer's 1843 description of the Rio Abajo settlement is in agreement with that of Kendall, though Falconer has fewer disparaging remarks to make about the villages and the people.

The prisoners reached Casa Colorado in October. Kendall (1847:394-395) describes Casa Colorado as a collection of little adobe houses and a large hacienda supported by a trading establishment owned by the Chaves family. He notes that the houses were built with oblong adobes, and the fences were constructed with large square bricks four times the size of the adobes used in house construction. Each house is fenced to separate the gardens from neighboring property. With this observation his objectivity ceases. Describing the area between Casa Colorado and Socorro, Kendall criticizes Hispanic farming practices, saying that "under Anglo-Saxon cultivation the region might support five times the population it now contains." But, he cautions, the region could not develop unless the vast distances to markets could be overcome. He says nothing about



Map 19. Roads to Chihuahua, 1821 - 1846 (after Moorhead 1958:104-105). Reproduced by permission of University of Oklahoma Press.

the need for additional water were the population to expand five times. Socorro, the last settlement before El Paso, was described by Kendall (1847:400-402) as a town occupied by a pack of "thieving, cheating, swindling scoundrels," and drunken Apaches who sell plunder taken in Mexico to the Rio Abajo villagers. Apaches camped on the edge of Socorro rode out to see the prisoners. Kendall thought one of the Indians to be a "dignified savage," more than he could say about any of the Hispanic villagers he met.

Although not unbiased, travelers reports of the New Mexican settlements along the Santa Fe and Chihuahua trails provide useful information concerning village life at the close of the Mexican Period.

Village Life on the Eve of American Conquest

The 1827 census of New Mexico (Table 20) provides useful information concerning the distribution of the population, and an interesting classification of the settlers based on their occupation. Only four settlements within the Central New Mexico Overview Area are listed on the census. They are Tome, Belen, Sabinal, and Socorro. The populations of the plazas and ranchos east of the Manzano Mountains are not listed but are, more than likely, included in the census figures for Tome and Belen. The combined population of the four settlements is 5,194; the largest population settled at Tome (2,043).

The census lists 1,038 farmers in the four settlements, and provides confirmation of the assumption that the majority of settlers were engaged in agriculture on a subsistence level. The 237 day laborers were probably employed in some aspect of farming and stock raising. Mining was not an important economic venture in the Mexico Period (Carroll and Haggard 1942:90; Christiansen 1963:24-25).

In the four settlements there were 218 craftsmen and 18 merchants. Village industries were limited to weaving, to producing small amount of wine, and to providing the settlers with implements, dry goods, and other stores needed to maintain farms and ranches. The reports that accompanied the 1827 census, and the chronicles of the Santa Fe and Chihuahua trade, support the view that stock raising and trade among the villages, as well as between Hispanic villagers and Indians, were the most important revenue producing activities of the day. Josiah Gregg

(Moorehead 1954:107-112) was amazed to find that farm implements were limited to the hoe and a rather clumsy wooden plow drawn by oxen. Fields were not always fenced, but when they were large adobe bricks were used to construct walls. Gregg observed that the preferred way to keep livestock from trampling crops was to graze animals on tracts far from agricultural land, or under the watch of a herder. The Manzano Mountain land grants were often used by people from the Rio Grande villages as grazing tracts. All farms were irrigated from the acequia madre, the main or mother ditch, that diverted water from rivers or springs, and delivered water to individual fields according to a schedule that allowed for equitable use by all members of the community.

All the acequias for the valley of the Rio del Norte (Rio Grande) are conveyed from the main stream, except where a tributary of more convenient water happens to join it. As the banks of the river are very low, and the descent considerable, the water is soon brought upon the surface by a horizontal ditch along an inclined bank, commencing at a convenient point of constant-flowing water - generally without dam, except sometimes a wing of stones to turn the current into the canal (Moorehead 1954:108).

The list of crops reported by Gregg is limited to wheat, "Indian" corn, and chili. He mentions that potatoes are a recent cultigen, and that cotton, apples, peaches, apricots, and punche or native tobacco are only occasionally found in New Mexico gardens.

By far the most important "product of the soil" in New Mexico Gregg identifies as the abundant grazing lands of nutritious grama grass. Stock raising ranged from small-scale sheep and cattle herding to commercial ranching. As the Chihuahua trade grew, so did the export of sheep from New Mexico to northern Mexico. The 1827 census lists gross numbers of sheep, goats, horses, cattle and mules in the alcaldias of Albuquerque, Santa Fe and La Canada. The Alcadia of Albuquerque included settlements at Albuquerque, Isleta Pueblo, Tome, Belen, Sabinal, Socorro, and Laguna, and reported 2,550 cattle, 155,000 sheep and goats, 192 horses, 868 mules and 105 mares (Carroll and Haggard 1942:43, 46). These figures are higher than those given for the Alcadia of Santa Fe and the Alcadia of La Canada. Josiah Gregg (Moorehead 1954:134) reports that at least 200,000 and perhaps as many as 500,000 sheep were

Table 20

New Mexico Census, 1827*

Report showing a general census of the territory of New Mexico with respect to the population and classes of inhabitants found there														Hospitals	Schools	Civil Status				Widows and Widowers		Total		
Number of citizens in each settlement within the territory																Unmarried	Married	Men	Women	Men	Women			
	Farmers	Craftsmen	Lawyers	Miners	Merchants	Physicians	Surgeons	Pharmacists	School Teachers	Students	Notaries	Day Laborers	Priests	Vicars	Clérigos							In operation at present	For girls and boys	Men
National company of Santa Fé and supernumerary invalids	000	000	0	0	0	0	0	0	0	0	0	000	1	0	0	0	0	153	207	115	115	9	1	599
Santa Fé, capital	467	101	0	0	12	0	1	0	1	0	0	264	0	0	0	0	2	2,098	2,087	450	450	31	44	5,160
Tesuque, Indian pueblo																								
Vado, Spanish settlement	401	93	0	0	2	0	0	0	1	0	0	217	1	0	0	0	1	709	799	634	634	53	64	2,893
Pecos, Indian pueblo																								
Cochité, Indian pueblo	416	63	0	0	3	0	0	0	1	0	0	34	1	0	0	0	1	548	491	472	472	38	41	2,062
Santo Domingo, Indian pueblo																								
Xemes, Indian pueblo																								
Zia, Indian pueblo	285	90	0	0	5	0	0	0	1	0	0	113	1	0	0	0	1	460	227	279	279	51	61	1,357
Santa Ana, Indian pueblo																								
Sandia, Indian pueblo	265	97	0	0	4	0	0	0	1	0	0	99	0	0	0	0	1	389	460	195	195	39	50	1,328
San Felipe, Indian pueblo																								
Alameda, pueblo	253	81	0	0	3	0	0	0	1	0	0	88	0	0	0	0	1	399	453	198	198	27	35	1,310
Albuquerque, <i>villa</i>	397	85	0	0	15	0	0	0	1	0	0	113	1	0	0	0	1	848	900	347	347	46	59	2,547
Isleta, Indian pueblo	291	96	0	0	4	0	0	0	0	0	0	103	1	0	0	0	0	373	345	316	316	24	33	1,407
Tomé, pueblo	397	56	0	0	7	0	0	0	1	0	0	101	1	0	0	0	1	712	692	289	289	28	33	2,043
Belén, pueblo																								
Sabinal, pueblo	388	93	0	0	8	0	0	0	1	0	0	143	1	0	0	0	1	555	424	339	339	49	62	1,768
Socorro, pueblo	253	69	0	0	3	0	0	0	0	0	0	83	1	0	0	0	0	309	513	261	261	14	25	1,383
Laguna, Indian pueblo																								
Acoma, Indian pueblo	376	25	0	0	1	0	0	0	1	0	0	43	1	0	0	0	1	518	395	415	415	37	44	1,824
Zuñi, Indian pueblo	417	00	0	0	0	0	0	0	0	0	0	00	0	0	0	0	0	375	316	231	231	8	11	1,172
Cañada, <i>villa</i>																								
Santa Clara, Indian pueblo																								
San Ildefonso, Indian pueblo	553	145	0	0	19	0	0	0	3	0	0	239	3	0	0	0	3	1,736	1,655	1,457	1,457	98	105	6,508
Pojoaque, Indian pueblo																								
Nambé, Indian pueblo																								
San Juan, Indian pueblo	417	83	0	0	6	0	0	0	1	0	0	196	1	0	0	0	1	1,027	1,045	366	366	51	60	2,915
Taos, Indian pueblo																								
Pecurís, Indian Pueblo	503	30	0	0	5	0	0	0	2	0	0	278	1	0	0	0	2	1,081	1,012	710	710	39	54	3,606
Abiquiú, pueblo	508	48	0	0	6	0	0	0	1	0	0	301	1	0	0	0	1	1,120	1,088	603	603	71	72	3,557
	6,588	1,237	0	0	93	0	1	0	17	0	0	2,475	17	0	0	0	18	13,409	13,109	7,677	7,677	713	854	43,433

* Reprinted from Carroll and Haggard (1942:88)

annually driven to southern markets between 1821 and 1840. Between 1819 and 1833, Bartolome Baca was said to have kept 40,000 sheep, 300 mares and 900 cattle on his pastures in the Manzano Mountains (Surveyor General Case 126: Reel 24: Frames 26-27). In all, Baca was said to have owned more than two million sheep and to have employed 2,700 herders (Towne and Wentworth 1946:63; Carlson 1969:29). There were many other wealthy stock owners living in the Rio Abajo, where sheep herds would gather for the annual conducta to Mexico. The figures cited above may be inflated, but the impression remains that the region was important for stock raising.

Gregg found adobe to be the most commonly used building material. The mud was formed into bricks measuring 18 inches long, 9 inches wide and 4 inches high (Moorehead 1954:144). Wood, he says, was seldom used, and then only to build "picket-huts" on ranches and in mining towns. The wealthier residents built their rambling, flat roofed adobe homes according to a plan that mirrored the defensive plaza of the frontier villages. A single tier of rooms arranged around a plaza that could be closed with a huge gate was the general plan (Moorhead 1954:144-145). The rooms were grouped into family apartments, and rooms were added as the family grew. In Casa Colorado Gregg saw a subterranean house, that to him looked like an animal burrow (1954:146).

Gregg suggested that the use of adobe was caused by the want of metal tools. The absence of tools, he believed, inhibited the development of architectural crafts and other industrial arts. Even the Santa Fe trade could not satisfy the need in New Mexico for tools.

The economies of the villages were controlled to a large extent by wealthy patrons, who owned the livestock and controlled access to land, water, and other resources. The patron had far-reaching social and economic control over the lives of the peons, the workers. The patron system has been described by a number of authors (Hurt 1941a; Hawley and Senter 1946; Kluckhohn and Strodbeck 1961; Leonard 1970), who have viewed the system critically or favorably depending upon the writer, the times, and the bias of their study. Closely related to the patron system was the partido, a form of livestock sharecropping. Details of the partido were described by Jose Agustin Escudero, a Chihuahua lawyer who visited New Mexico in 1827. Although his description, written in 1849, may be overly optimistic, it

outlines the important economic and social functions served by the patron and partido systems.

It can be asserted that there were no paupers in New Mexico at that time, nor could there be any. At the same time, there were no large-scale stockmen who could pay wages or make any expenditure whatever in order to preserve and increase their wealth in this branch of agriculture. A poor man, upon reaching the age when one generally desires freedom and sufficient means to subsist and start a family, would go to a rich stockman and offer to help him take care of one or more herds of sheep. These flocks were composed of a thousand ewes and ten breeding rams, which were never separated from the herd as is the practice of stock raisers in other countries. Consequently, in each flock, not a single day would go by without the birth of two or three lambs, which the shepherd would put with the ewe and for the female to suckle without the difficulties which he would have had with a larger number of offspring. The shepherd would give the owner ten or twenty percent of these sheep and an equal amount of wool, as a sort of interest, thus preserving the capital intact.

From the moment he received the flock, the shepherd entered into a contract in regard to the future increases, even with his own overseer. As a matter of fact, he usually contracted it at the current market price, two reales per head, the future increase to be delivered in small numbers after a period of time. With this sum, which the shepherd had in advance, he could construct a house, and take in other persons to help him care for and shear the sheep, which was done with a knife instead of shears. The milk, and sometimes the meat, from the said sheep provided him sustenance; the wool was spun by his own family into blankets, stockings, etc., which could also be marketed, providing an income. Thus the wealth of the shepherd would increase until the day he became, like his overseer, the owner of a herd. He, in turn, would let out his herds to others after the manner in which he obtained his first sheep and made his fortune. Consequently, even in the homes of the poorest New Mexicans, there is never a dearth of sufficient means to satisfy the necessities of life and even to afford the comfort and luxuries of the wealthiest class in the

country (Carroll and Haggard 1942:40-42).

Those who failed to produce a lamb crop for any number of reasons, including disease, drought, and Indian attack, were plunged into debt that could last indefinitely. Though they might not be paupers, debt peonage could hold partidarios and their families slaves to the flock owner. It is because of this that the patron-peon system has been condemned.

Where the church had provided community focus in Spanish New Mexico, the patron and other village associations served to bond communities in the Mexican Period. Twenty-two Franciscan fathers served the 26 Indian pueblos and 102 Hispanic settlements in 1812 when Pino testified to the Cortes (Carroll and Haggard 1942:50). The priests resided in the pueblos and were not often able to travel to the Hispanic villages. In 1828 all Spaniards were ordered to leave Mexico. This would have left New Mexico without clergy, had all followed the order. Yet most of the friars stayed in New Mexico until their deaths, which mainly occurred in the 1830s (Weigle 1976:22).

To fill the need thus created for priests, the "Cofradia de Nuestro Padre Jesus Nazareno," or as it came to be called more frequently, the Penitente Cult, emerged in many Hispanic villages. There is much speculation about the origin and original function of the cofradia, or penitentes. In Spain the cofradia was a fraternal association based on deep devotion to the sacraments and rituals of Catholicism, and strong bonds of social responsibilities among members (Foster 1953:11-17). The cofradia in New Mexico has been called a revitalization movement (Dozier 1970:94). The cult may have come to New Mexico with the earliest colonists, then lay dormant until the need for lay ministry was manifest. By the beginning of the Mexican Period the rites of the penitentes were being practiced in many parts of Hispanic New Mexico (Chavez 1954a; Swadesh 1974:72-74; Dozier 1970:94-95; Weigle 1976). In 1833, Bishop Jose Antonio Laureano de Zabiria criticized the penitentes for the extreme forms of self-scourging and supplication practiced by the hermanos, the brothers of the rites.

To what extent the cofradia functioned in Rio Abajo villages is unknown. Josiah Gregg (Moorhead 1954:181-182) observed flagelettes in Tome during Semana Santa, Holy Week. He interpreted their actions as atonement for past

sins, but did not recognize the procession as part of a larger community organization. Marta Weigle (1976) has summarized the history of the penitentes in New Mexico. It indeed seems that the cult was less noticeable in Rio Abajo than in Rio Arriba communities. It may be that the patron system of Rio Abajo villages was stronger than that in Rio Arriba villages, and this may have prevented or precluded the development of a stronger cofradia.

Neither the patrons nor the hermanos could slow the events that were leading to the demise of the Mexican claim to New Mexico. Throughout the Mexican Period the influence of American merchants was increasing. The Republic of Mexico was not able to provide the New Mexico province with the goods or arms needed to sustain frontier settlements. Every New Mexico governor was put to the test, defending the settlements against Navajo and Apache raids, the increasing boldness of the Republic of Texas, and the demands of an expanding population that had few self-supporting industries.

Manuel Armijo was the governor who gave up the fight. To those who defend his actions, yielding to the Americans was the only solution. The Americans could at least provide military support to quell the escalating Indian attacks, and could supply New Mexicans with tools to develop the mines, farms, and markets to support the population. To his critics, Armijo was a venal, avaricious politician who sold his country for the personal gains he would make in complicity with American business partners. On August 15, 1846, General Stephen Watts Kearny claimed New Mexico for the United States.

AMERICANS IN NEW MEXICO TERRITORY 1846 - 1912

An American Territory: Conquest and Exploration

The American takeover of New Mexico came after a long period of hostility between and among the United States, Mexico, and the Republic of Texas. New Mexicans blamed Texas and the United States for the 1837 uprising against Governor Albino Perez, and many viewed the Texan-Santa Fe Expedition as an ill-disguised attempt of Texas troops, largely composed of American frontiersmen, to seize New Mexico (D. Weber 1973:74). Americans believed that their claim to the Far West was justified by their "superior" technology, and their "destiny" to control the entire

North American continent and to regulate trade throughout North America. President Polk needed only the slightest provocation to declare the Mexican War, and to annex New Mexico, California, and (sometime earlier) Texas, as United States possessions. The New Mexico takeover appears to have been negotiated long before Stephen Watts Kearny and the Army of the West marched into Las Vegas, New Mexico. Most scholars believe that James Magoffin, an influential American trader and liaison to Mexico, arranged the terms of American "conquest" with Governor Armijo (D. Weber 1973:97). Armijo claimed to have had no support from New Mexico troops: New Mexicans claimed that Armijo offered no resistance to the Americans (D. Weber 1973:121-125). The Treaty of Guadalupe Hidalgo brought the end of the Mexican War in 1848. Lands added to the United States by treaty and annexation of Texas brought a major part of the North American continent under American rule. The Treaty guaranteed that Mexican subjects living on annexed lands would be granted the rights of American citizens, or could elect to move to Mexico.

The American occupation of New Mexico followed, in many ways, the same sequence of events as the initial Spanish occupation. American military and geographical explorers joined entrepreneurs, who were already in New Mexico, soon after Kearny claimed the territory. The Americans, for the most part, came with the characteristic intolerance of conquerors. With few exceptions, the reports of the advancing American explorers condemned the Hispanic land-use and cultural practices.

There are numerous journals describing New Mexico in 1846 - 1847 written by soldiers and traders who accompanied the Army of the West to New Mexico and California. Among the most widely read chronicles are Susan Shelby Magoffin's journal, edited by Lamar (1926). Lieutenant Abert's beautiful sketches and diary (Galvin 1970), Lieutenant Emory's official reports (Calvin 1951), Turner's journal (Clarke 1966), Doniphan's report (Connelly 1907) and Ruxton's work (Hafen 1950). The many surveys were part of a comprehensive plan for the Far West that was to ensure orderly settlement, expansion of railway and trade routes, defense against the Indians and a secure southwestern boundary for the United States (Bender 1934:1).

Susan Shelby Magoffin traveled "Down the Santa Fe Trail and Into Mexico" in 1846 - 1847 in a

caravan just behind the Army of the West, reaching the Rio Abajo settlements in late January 1846. She was too preoccupied with the news of an uprising in Taos in which Governor Bent was murdered to say much about the villages she passed through. At Fray Cristobal she noted that this camping place, like that of Valverde, although used by all the southward caravans, offered travelers few comforts.

Lieutenant Emory reached Tome on October 1, 1846, then went on to the verdant agricultural villages of Belen and Sabinal. At La Joya where Emory's party camped on October 2, the villagers warned Emory that 40 Navajos were in the vicinity. Navajos attacked Polvadera on October 3. Emory dispatched troops to the town, but the soldiers arrived too late to assist the assembled townsmen of Polvadera and Lemitar in repulsing over 100 Indian warriors.

Between La Joya and Socorro Emory's party had some difficulty moving wagons across sandy hills. In spite of this difficulty, Emory described the country north of Polvadera as the loveliest in New Mexico (Calvin 1951:83). He quieted his desire to explore the country, and wrote in his diary that the object of this march was not exploration, but war (Calvin 1951:94). From Socorro the army moved south to Valverde, and established camp near the Fra Cristobal range, where they abandoned their cumbersome wagons. The company then moved west through southern New Mexico and Arizona and on to the conquest of California.

Emory's account records the formal military notes of troop movements and difficulties of the march. Emory makes many notes on the flora, fauna, and topography of the country, but his observations are fairly impersonal. The journals of Henry Smith Turner are more personal, offering insight into the observations and anxieties of the foot soldier. Turner notes that a grove of cottonwood trees near Tome was carefully preserved by the owner, because wood was scarce and provided the only material from which carts could be made (Clarke 1966:77).

Lieutenant J. W. Abert, who with Lieutenant Peck and Emory mapped New Mexico for the U.S. Army Topographic Engineers, left an illustrated journal that described the people, villages, ruins, wildlife, and landscapes of many places in New Mexico. Abert marched into the deserted village of Chilili on November 1, 1846. He says

the village was abandoned only two years before (1844) due to the scarcity of water. From Chilili Abert could see the Estancia Basin salt deposits mined for use by villagers throughout New Mexico. Abert traveled to the new plaza of Chilili, then on to Tajique and Torreon. All were small settlements and Abert found the people to be friendly.

The Americans were not so well hailed at Manzano, where they were greeted by an armed contingent loyal to the Mexican government. Manzano was the largest of the settlements located on the eastern flanks of the Manzano Mountains. Abert noted the Indian influence in the architecture of the village, and described the apple groves from which the town took its name. Three mines producing silver, copper and iron were operating in the vicinity. Abert visited and sketched the ruins of Abo and Quarai before leaving the Manzano Mountains.

Upon reaching Casa Colorado, four days travel from Chilili, Abert learned that the Army of the West had entered Chihuahua (Galvin 1970:59). At La Joya, Abert described the beautiful fields located adjacent to the river where crops of corn were grown and where cattle now grazed on the harvest stubble. South of La Joya the landscape and climate changed - the vegetation becoming more desert-like, the river fringed with cottonwoods, the landforms more rugged, and the climate milder. At Sabino on November 9, 1846, Abert found the residents assembled to pursue a band of 50 Navajos who had alarmed the villagers.

Abert moved on toward Socorro on November 10th, where he met a caravan of 70 traders and other regiments of American troops, some moving south toward Chihuahua, others moving north to winter quarters in Albuquerque, some moving west for the conquest of California. The traders and American troops established various camps in the vicinity of Valverde, waiting word about conditions in Chihuahua. An advance party of William Doniphan's troops met Abert's men and the traders at Valverde on November 21, 1846 (Galvin 1970:64-65). William Connelley (1907:270), who described the camp at Valverde years after the event, remembered 500 mounted troops and 300 traders in the Valverde camps. In late November George F. Ruxton, an English writer and military man who had recently come from the conquest of Chihuahua, joined the Abert camp. Ruxton remained at Valverde until the camps broke in early December.

Expecting to remain in the vicinity of Valverde for some time, at least until they received word that travel to Chihuahua could be undertaken with safety, the troops and traders began construction of temporary quarters using material salvaged from the ruins of Valverde. Adobe bricks were used to fashion chimneys, and thatched wood was used to construct the walls of primitive shelters (Galvin 1970:66-67). The troops hunted what game and fowl they could find close to camp, and bought corn, coffee, and a few other supplies at exorbitant prices from the Rio Abajo villagers.

Abert occupied his time exploring the area, drawing, and making friends in the villages. Ruxton hunted, and wrote long journal entries about the deplorable conduct of American soldiers. The camps were disbanded on December 14, 1846. Abert and Ruxton moved north to Santa Fe. Abert's journal of the upriver march is terse, no doubt a testimony to the rigors of a winter campaign. Abert mentions passing a deserted village on the west side of the Rio Grande between Socorro and Lemitar (Galvin 1970:72).

Ruxton complains bitterly about the sloppiness of Socorro, Lemitar, and every other village they passed through. He passed no judgement on San Antonio, a settlement of twelve log cabins occupied by vaqueros and pastores, where the troops camped their first night after leaving Valverde (Hafen 1950:174-179). The traders moved their camp south to Fray Cristobal, where they stayed for five days (Moorhead 1958:168). After marching through the Jornada del Muerto in the company of Colonel Doniphan, the caravan of traders and soldiers was attacked by a regiment of the Mexican Army on Christmas Eve and Christmas Day.

The expansion of the Mexican War severely curtailed trade along the Chihuahua Trail. This trade route would never recover from the war. With the annexation of Texas a shorter route between Mexico and the United States was established: El Paso then replaced Santa Fe as the port of entry (Moorhead 1958:198). The Santa Fe Trail, on the other hand, retained its prominence and profited as the major supply route serving the expanding American frontier. Trade within New Mexico also expanded during the Mexican War. As American troops established outposts, they drew on the local villages for provisions, fodder, and mules for packing their camps. By 1849, one year after the Treaty of

Guadalupe Hidalgo, and the beginning of the California Gold Rush, New Mexico was once again an important depot in trade. This time sheep herds and traders were assembled for drives to the gold fields. Some sheep trails to the south were also maintained.

The Army of the West quickly learned that the conquest of New Mexico would not be completed until the nomadic Indian groups that preyed on the Hispanic villages and sedentary Pueblos had been subdued. James S. Calhoun, Indian Agent in Santa Fe, and the various regiments of the army stationed throughout the Territory diligently reported and investigated the interactions of the Hispanic and nomadic people. Calhoun (Abel 1915:281) reported Jicarillas camped regularly in the vicinity of Manzano, trading in town. In March 1851, Bvt. 2nd Lieutenant of the 2nd Dragoons J. P. Holliday and a force of 44 men tracked Jicarillas to a camp some 60 miles southeast of Manzano. Neighboring Hispanic villagers reported to Holliday that the Jicarillas were not a menace: in fact, the Jicarillas and residents of Manzano formed a mutual defense against Navajos who raided the area (National Archives, Record Group 94; Adjutant General's Office, Letters Received, Albuquerque, New Mexico, March 28, 1851, Holliday to Allen).

Major James H. Carleton was sent to investigate Apache activities in the vicinity of the abandoned Salinas Pueblos in 1853. His journal (1855a and b) makes mention of Apaches only once, to say that they had left the area. The importance of his diary lies in the detailed description he provides of the abandoned Salinas pueblos, and his detailed topographic descriptions. His references to the Manzano Mountain villages are some of the harshest judgements of Hispanic cultural practices.

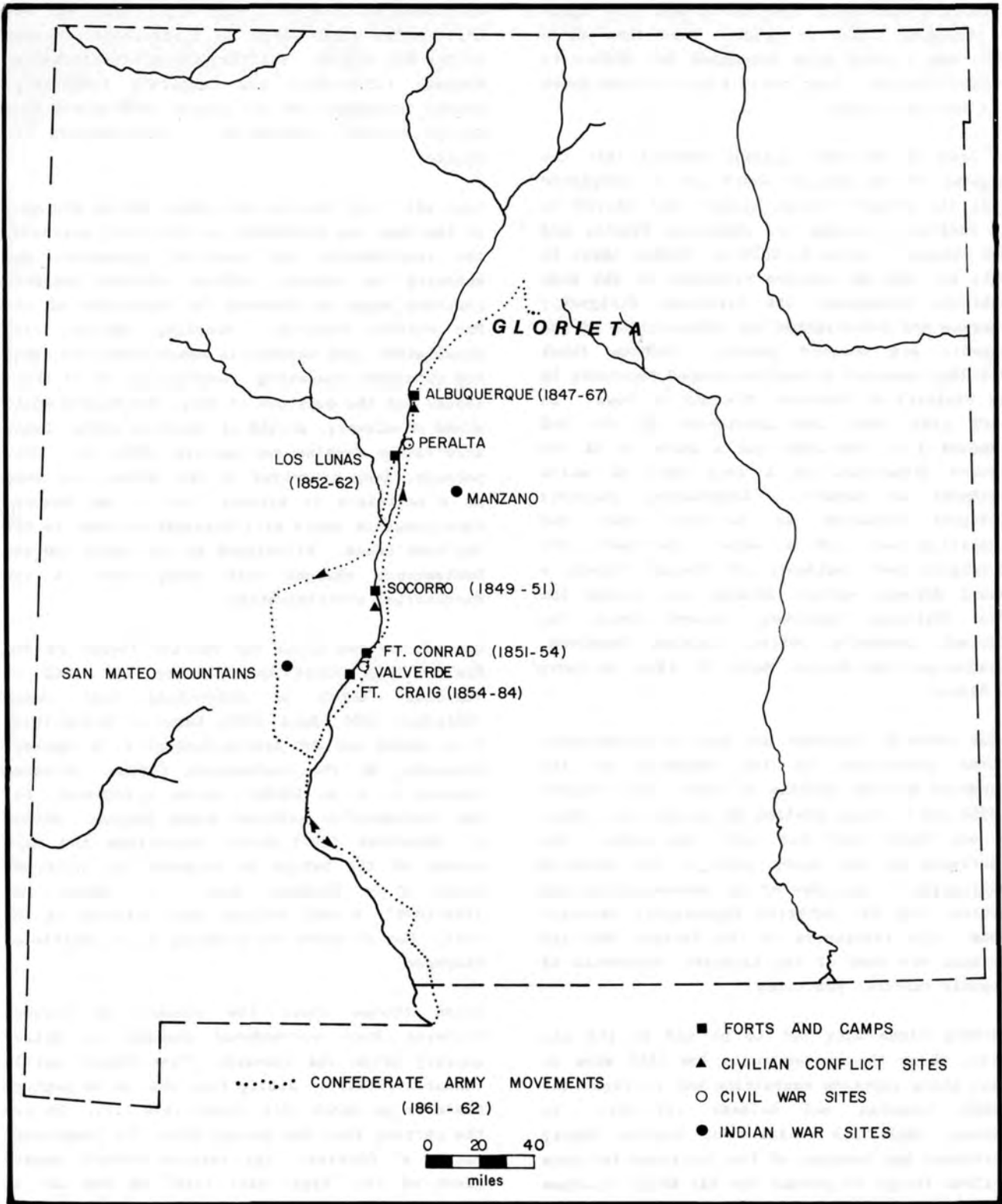
Peaceful times were not to be had in the Rio Abajo, where the muster rolls for 1850 show at least three captains recruiting men to fight the Navajo (Jenkins and Salazar 1974:60). In February 1852, 143 citizens of Socorro County petitioned the Governor of the Territory for more American troops to protect the Rio Abajo villages (Abel 1915:481). To meet the defensive needs of the Rio Abajo, garrisons were sent to Socorro, Albuquerque, Tome, and Dona Ana (Frazer 1968: 34-37), locations that Pino had asked Spain to garrison in 1812. Fort Conrad (Map 20), built in 1851 just east of the ruins of Valverde, provided

some protection to the settlers, but was abandoned in 1854 when Fort Craig (Map 21) was built a few miles south, at a strategic crossing of the Rio Grande. Military camps established at Abiquiu (1849-1851) and Cebolleta (1850-1851) served to protect the Rio Grande settlements from Navajo attacks originating in northwestern New Mexico.

Soon after the Mexican War ended, while the Army of the West was exploring the Territory assessing the requirements for American occupation and subduing the nomadic Indians, various American factions began to contend for dominance of the Far Western frontier. Ranching, mining, land speculation, and mercantile capitalism were among the interests competing. Underlying all of these issues was the question of where New Mexico would stand on slavery, should it become a state (Lamar 1970:72-73; Jenkins and Salazar 1974:7-8). Debt peonage, long practiced in New Mexico, was seen as a correlate to slavery, and it was assumed this practice would ally Hispanic patrons to the Southern cause. Allegiance to the Union and the Confederacy changed with every turn in the Territorial administration.

One of the two Civil War battles fought in New Mexico took place on February 21, 1862 at Valverde, north of Union-held Fort Craig (Whitford 1906; Hall 1960; Lamar 1970:116-117). In a fierce one day battle General H. H. Sibley, Commander of the Confederate forces, defeated Colonel E. R. S. Canby's Union detachment, but the Confederates suffered heavy losses. Marion C. Grinstead (1973:20-23) summarizes the main events of the battle of Valverde in "Life and Death of a Frontier Fort: Ft. Craig, NM, 1854-1885", a well written local history of the fort. Map 22 shows the strategy of the Battle of Valverde.

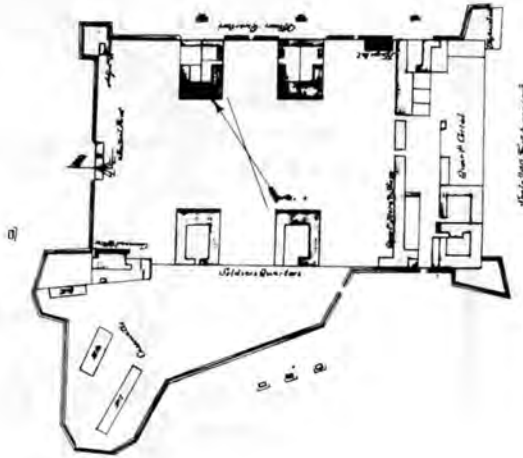
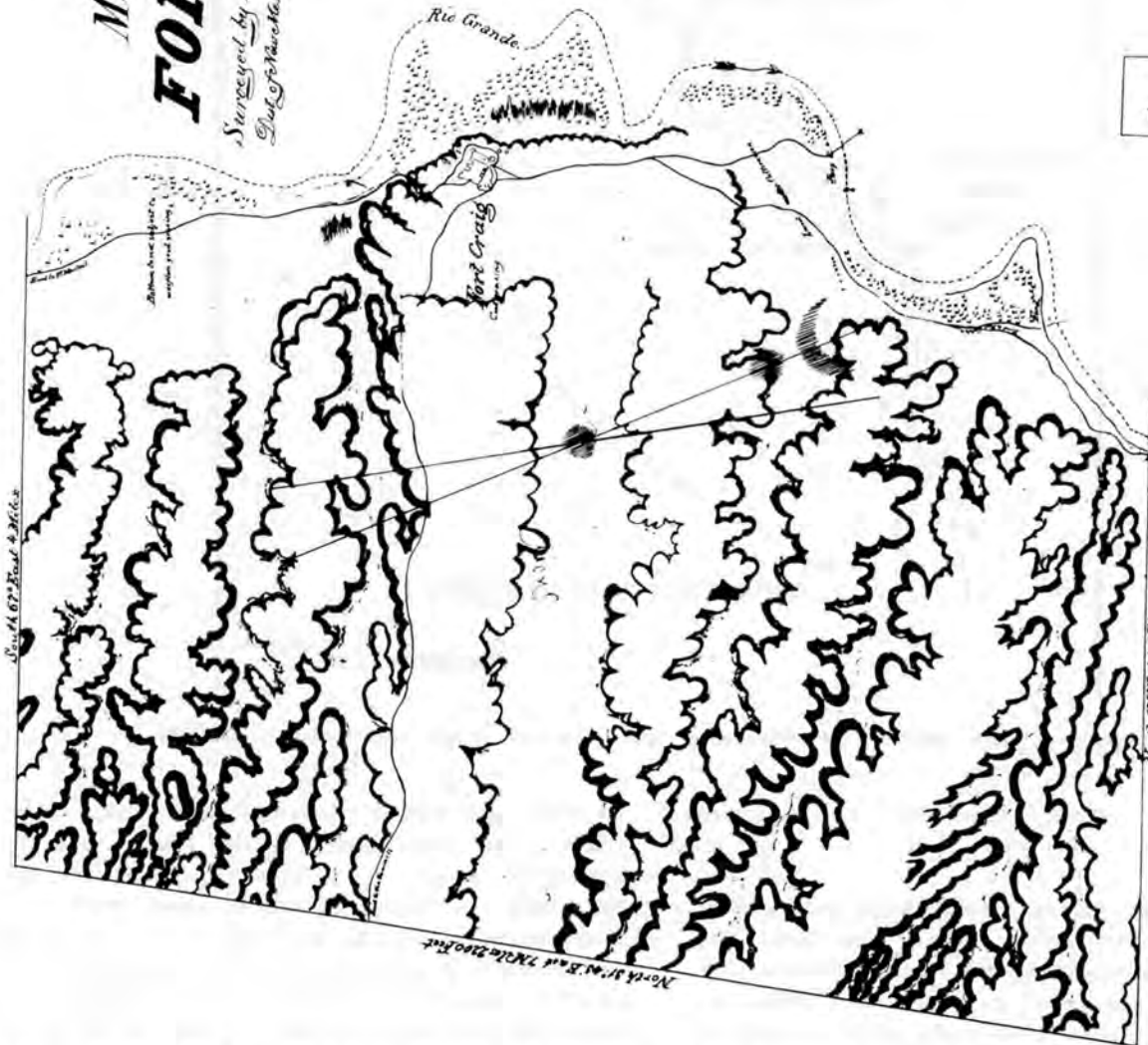
Union troops under the command of Colonel Nicholas Pino surrendered Socorro to Sibley shortly after the Valverde (Fort Craig) battle (Lamar 1970:117). Sibley then went on to capture Santa Fe on March 10th (Lamar 1970:117). He led the retreat from New Mexico after the indecisive battle at Glorieta, the western state's equivalent of the "high water mark" of the war at Gettysburg. The route of Sibley's retreat to Texas took the Confederates far west of the Rio Grande, through the San Mateo Mountains then east and across the Rio Grande just north of Truth or Consequences. Presumably this route was taken to avoid another battle with the Union forces still



Map 20. Territorial Period Conflicts pertinent to the Overview Area (after Williams and McAllister 1979:86).

Military Reservation of **FORT CRAIG, N.M.**

Surveyed by order of Major General J. M. Getty, commanding
Dept. of New Mexico, Oct. 1888 to May 1890, by
Staff Surgeons & one other

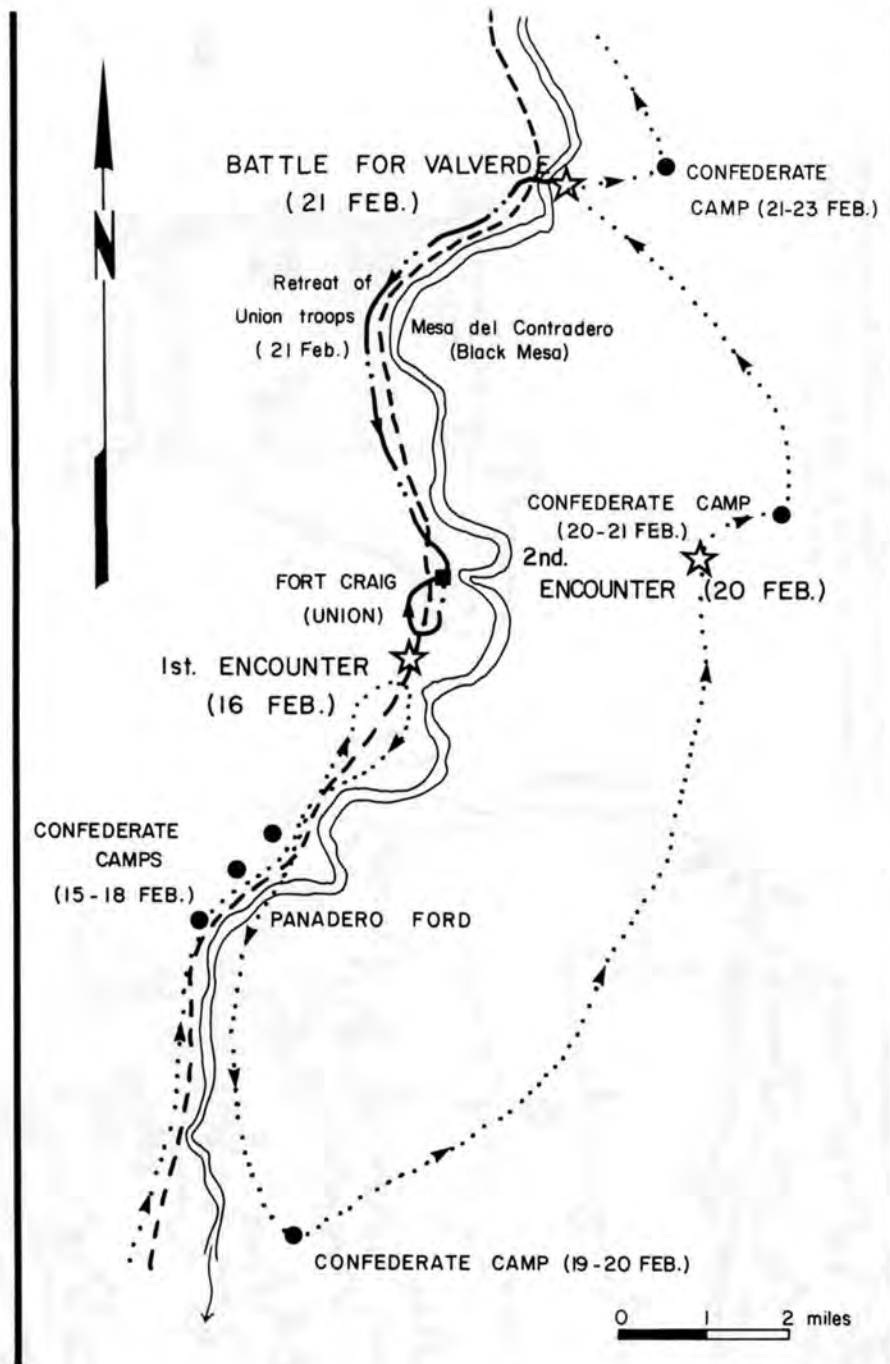


Scale
1" = 100'

Scale
1" = 100'

OFFICIAL

Map 21. Fort Craig Military Reservation, as surveyed by the Corps of Engineers.



Map 22. The Battle of Valverde, 1862 (after Beck and Haase 1969:37).

holding Fort Craig (Barbaras and Richard 1980:3-4).

Military action against the Navajos and Apaches continued and intensified after the Civil War battles in New Mexico. Schroeder (1974:174-176) documents Navajo raids on Lemitar in 1836 and 1864. The attacks presumably were staged by Navajos who had established a regular camp some 15 miles west of Lemitar at Ojo de Cibola.

In 1862, New Mexico militia Colonel Christopher (Kit) Carson was ordered by New Mexico military Commander James H. Carleton to pursue the Mescaleros and Navajos, and to place them on a reservation set aside for their use. Carleton had devised a systematic, though controversial, plan to transform nomadic Indian tribes into sedentary agriculturalists. By the beginning of 1863, the Mescalero Apaches were being held at Bosque Redondo on the Pecos River. In December

of the same year the first group of Navajos were brought to Bosque Redondo. Throughout the five years that Bosque Redondo was used as an internment camp public sentiment vacillated about the wisdom of Carleton's approach to pacification of nomadic Indians (Thompson 1976). By 1868, public sentiment was decidedly against Carleton's plan and the Navajos were released to a reservation established in their former homeland in northwestern New Mexico. The Mescaleros had fled Bosque Redondo in 1865, and in 1873 were re-settled on a reservation south of Fort Stanton in southeastern New Mexico.

By the mid 1860s the Indian wars in central New Mexico were over, and the area began to exhibit some economic and social stability. Many of the soldiers and merchants who came during the conquest of New Mexico stayed to fight the long campaign for statehood.

American Land Law and Hispanic Land-Use: A Conflict of Values

The ultimate conflict between Hispanic and American settlement and land-use practices was apparent from the earliest chronicles of the Santa Fe Trade and reconnaissance reports of American military personnel. American land-use in other frontiers relied upon precisely defined boundaries of private property and principles of economic specialization. Hispanic practices were based on the concepts of a broad-based subsistence economy practiced on lands that included communal holdings as well as exclusive rights. Reconciliation of the two views has never been wholly accomplished. An excellent discussion of the conflict of American and Hispanic land tenure and land-use practices is that by Van Ness and Van Ness (1980:7-11).

To assist in resolving the conflict between Hispanic and American land values and to clear land titles, the Office of the United States Surveyor General was extended to New Mexico in 1854. The first Surveyor General, William Pelham, was charged with the responsibility of surveying the public domain, and establishing the township grid by which tracts of land could be legally described (Westphall 1965:3-4). The Surveyor General's office was also responsible for recommending to Congress appropriate action for lands claimed under the laws and customs of Spain and Mexico (Van Ness and Van Ness 1980:10).

The office was more successful in laying down the lines of public survey than in dealing with the complexities of Hispanic land grants. Pelham set the initial control point of public survey about six miles south of the junction of the Rio Grande and the Rio Puerco, on a hill northwest of La Joyita (Westphall 1965:6). The point is in a room block of the late prehistoric site of "Cerro Indio," recorded by Marshall and Walt (1984:147). This monument established the principal meridian and base line from which the townships and ranges for all of New Mexico were subsequently referenced. Pelham then contracted with deputy surveyors for the monumentation of exterior boundaries of the more densely settled townships. Between 1854 and 1860, the Rio Grande, from Santa Fe to El Paso, was surveyed (Westphall 1965:163).

Pelham also contracted for exterior boundary surveys for lands bordering the Pecos and Canadian rivers. Subdivision surveys, the division of townships into square mile sections, proceeded more slowly. Subdivision surveys were required before land could be claimed under the Homestead Act of 1862 and other settlement legislation. Until 1876 only thirteen townships in the Central New Mexico Overview area had been subdivided (Westphall 1965:162). They were located east of San Antonio, as far as the present location of Bingham, then south twenty-four miles into the Jornada del Muerto. Certainly not a choice location for immediate settlement, this was chosen perhaps because the area bordered many contested Spanish and Mexican land claims. Westphall (1965:17-18) suggests that Pelham chose to survey the Jornada del Muerto because of the potential for artesian well development identified by Brevet Captain John Pope in 1855-1856 for the Secretary of War. Later Surveyors General were directed to confine subdivision surveys to areas of potential and actual agricultural use.

The exterior boundaries of most of the townships in the Central New Mexico Overview Area were surveyed under the Surveyor General Henry M. Atkinson, who served New Mexico from 1876-1884 (Westphall 1965:165). Atkinson also completed subdivision surveys of a large part of the area. Some lands, such as those in the vicinity of Chupadera Mesa and Progresso, New Mexico (located on the northern boundary of the southern parcel of the Cibola National Forest) were not surveyed until much later (Westphall 1965:164-165).

Atkinson's administration was responsible for a significant increase in the area of New Mexico surveyed but, during the same time, land frauds and irregular practices accompanied the surveys (Westphall 1965:24).

Although grazing lands could not legally be surveyed by the Surveyor General's office, Atkinson issued many contracts for lands that could only have been used by stockmen. His supporters would probably say that Atkinson realized that land laws formulated in more verdant regions of the United States were unrealistic in the arid West. His detractors would probably accuse him of having yielded to the growing cattle industry, witnessed by his interests in various New Mexico land and cattle corporations (Westphall 1965:28). In any event, the maps produced during the Atkinson years must be used with caution. In some cases, subsequent resurveys have shown that plats accepted by Atkinson were fraudulent, and could not have been drawn from actual ground surveys. With this caution the maps can still be used to draw the broad picture of settlement in the study area during the Territorial period.

Under various laws designed to encourage the settlement of the Far West it was possible for a citizen to gain legal title to 1,120 acres of land (Westphall 1965:43). The Homestead Act of 1862, the Timber Culture Law of 1873, and the Desert Land Act of 1877 were some of the laws that opened western lands for settlement.

The Homestead Act of 1862 provided 160 acres to settlers who lived on and improved a tract over a five year period. If cash were available, it was possible to secure a final homestead certificate after six months in residence and payment of \$1.25 per acre. After gaining the final homestead certificate, it was then possible through preemption to claim an additional 160 acres by six months in residence and payment of \$1.25 per acre. The Timber Culture Law of 1873 was passed to enlarge the area that could be claimed by settlers seeking lands in the Far West. The 160 acres that could be claimed under the Homestead Act of 1862 was a figure based upon the potential productivity of a similar size tract in more fertile agricultural areas of the United States.

The Desert Land Act allowed entry on 640 acres. At the time of entry the settler was required to pay only 25 cents per acre. Within three years improvement had to be made, and the balance of

\$1.00 per acre had to be paid. Each of these settlement laws is succinctly summarized in Westphall (1965), and discussed in historical perspective in a volume edited by Carstensen (1962). The loopholes in these laws and the cumbersome procedures by which the General Land Office implemented the legislation allowed for much abuse of the system.

Within this overview area, cash sales and the Homestead Act of 1862 were the most common means by which public lands were claimed. Westphall's study (1965:168-169, 170-171, 175-178) indicates that the period between 1882 and 1891 was the most active period of public land claims. Fig. 6 is a gross tabulation of the types of claims made in the Central New Mexico Overview Area during this period. Westphall's maps (1965:165-168, 170-171, 175-178) show the location of townships in which the different types of land claims were made.

Of the 165 townships in the study area, only a small number of townships were involved in public land claims. It would be misleading, however, to assume that settlement occurred only in those townships in which public claims were filed. In fact, the subdivision survey maps show that the population was still more densely settled along the Rio Grande than on the plains east of the Manzano Mountains. Although reporting areas are not the same though time, census figures for the period 1850 through 1880 (Table 21) confirm this general pattern.

County boundaries also reflect this pattern. Until 1870, when the population of New Mexico began to increase rapidly, the state was divided into a small number of large counties. Then, after 1870, county boundaries changed often to divide the state into smaller, more easily managed civil subdivisions. Beck and Haase (1969:41-52) map New Mexico county boundaries from 1850 to 1969. Williams and McAllister (1979:48-49) explain general economic and political factors that caused the realignment of county boundaries in New Mexico. Tarrant County was formed from parts of Bernalillo, Lincoln, San Miguel, Santa Fe, Socorro, and Valencia counties in 1905. Socorro County was established in 1852, but assumed its present form in 1921.

Along the river the population was settled in towns and villages, many of which had been occupied since the Mexican Period. Some new river-based settlements were added after the U.S.

military succeeded in quelling Navajo and Apache attacks. Still more were settled when railroads began construction in New Mexico during the period 1879 to 1900. Land holdings along the river were complicated by Hispanic land-use strategies and inheritance customs.

Vara strips, or fields extending at right angles from the acequia madre and leading to the limits of individual land holdings, were the most common settlement pattern exhibited in agricultural villages located along the Rio Grande. Varas became narrower and narrower through time as they were divided equally among heirs. Carlson (1975) discusses the "long-lot" settlement pattern of Rio Arriba county. He observes that the subdivision of long-lots eventually leads to a situation where land-holdings are not economically viable. The same situation occurred in central New Mexico agricultural villages, where by the late 1890s land holdings among the Hispanic villagers were limited by inheritance practices and the legal system now imposed by the American government. Map 23 shows such small holdings claims in Sections 5 & 6 of Township 4 South, Range 1 East in the village of Luis Lopez.

Those settlements on the plains shown on cadastral survey plats of the period 1880 to 1890, display a settlement pattern commonly associated with ranching. Survey plats of townships located east of the Rio Grande show a low density settlement of houses, corrals and other facilities related to ranching (e.g., driveways and vats) located adjacent to surface water sources (Map 24). Control of a critical water source guaranteed exclusive use of surrounding grazing lands. Ranching empires were built by those families and corporations that acquired water sources.

The expansive plains of central New Mexico were eventually involved in the conflict between the growing cattle industry, which developed in New Mexico during and immediately following the Civil War, and settlers who came to claim smaller homestead and desert entry tracts. Westphall (1965:45-47) calculated the number of homestead tracts processed in New Mexico in the period 1880 to 1890, and concluded that many were claimed by devious means, seemingly to amass enough land to graze livestock. That there was much abuse of homestead and other land laws was as widely known as the well established facts and fiction of conflict between the two dominant cultural groups.

Table 21

Central New Mexico Population Figures
1850 - 1890*

Rio Grande Villages

	1850	1860	1880	1890
Belen	510	632	na	685
Los Jarales	329	437	na	676
Casa Colorada	272	300	na	214
La Joya	440	606	na	280
La Joyita	186	606	na	---
Lemitar	420	768	na	390
Enlame	180	152	na	---
Luis Lopez	191	206	na	238
Parida	168	44/81	na	---
Polvadera	363	492	na	381
Sabinal	602	549	na	379
San Antonio	228	99	na	460
Socorro	543	512	1,272	2,295
Tome	615	306	na	1,130
Valencia	252	247	na	494
Bosquecito	---	92	na	71
Fort Craig	---	83	na	---
Fray Cristobal	---	194	na	---
Escondida	---	78	na	284
Valverde	---	89	na	370
Paraje	---	---	na	261
New San Marcial	---	---	na	500
Old San Marcial	---	---	na	111
San Pedro	---	---	na	168
San Acacio	---	---	na	319
Carthage	---	---	na	367

Plains and Mountain Villages

	1850	1860	1880	1890
Manzano	403	831	na	658
Chilili	---	330	na	424
Tajique	---	351	na	350
Torreon	---	435	na	363
Quarai & Cienega	---	194	na	331
Punta de Agua	---	237	na	290

*Sources:

1850 Seventh census of the United States: Population by subdivision of Counties (1853:995).

1860 Eighth census of the United States: Population by Cities, Towns and other subdivisions (1864:571-572).

1883 Tenth census of the United States: Population of Civil Subdivisions (1884:280-282).

1890 Eleventh census of the United States: Aggregate population by minor Civil Subdivisions (1892).

** Note: "na" means not available for any town other than Socorro in the 1880 census.

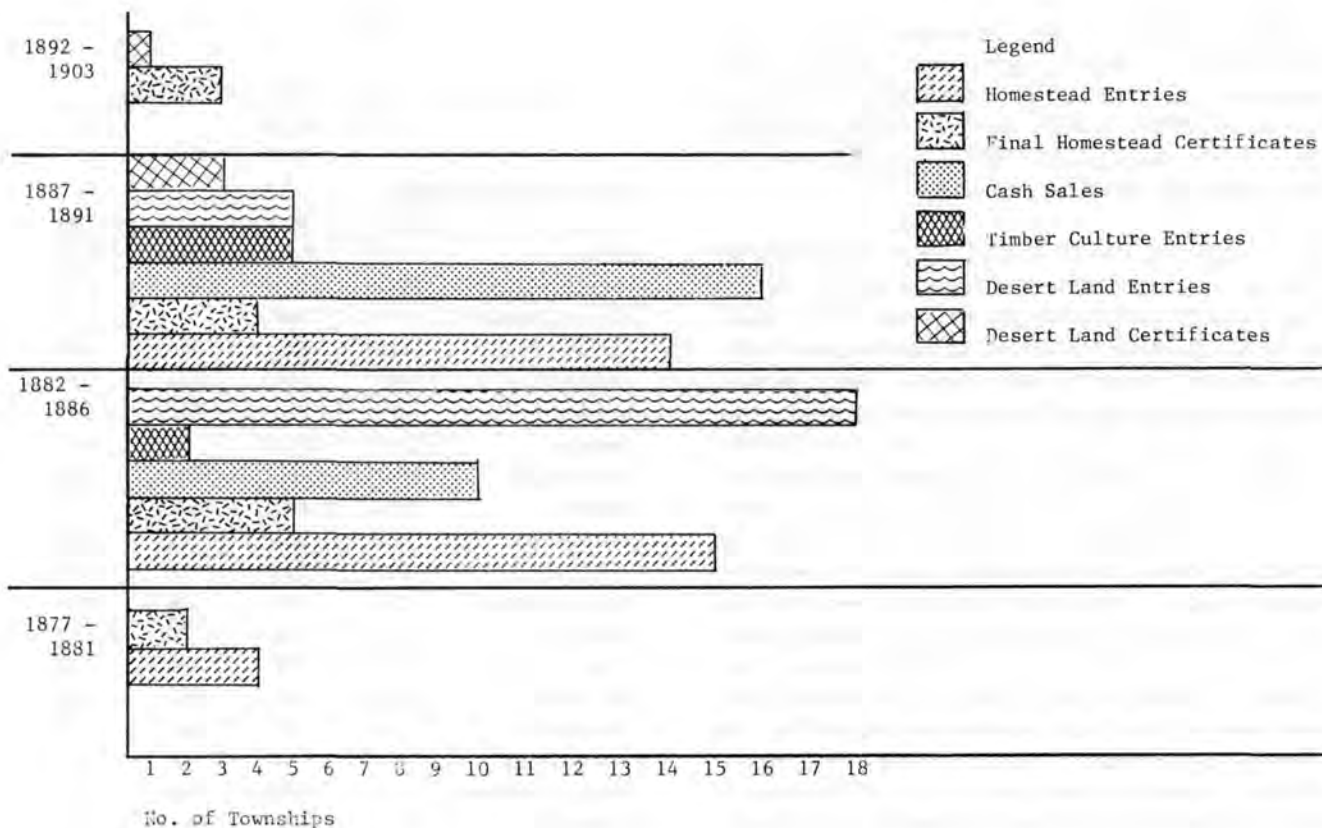


Figure 6. Public land claims in the overview area, 1877 to 1891. (After Westphall 1965).

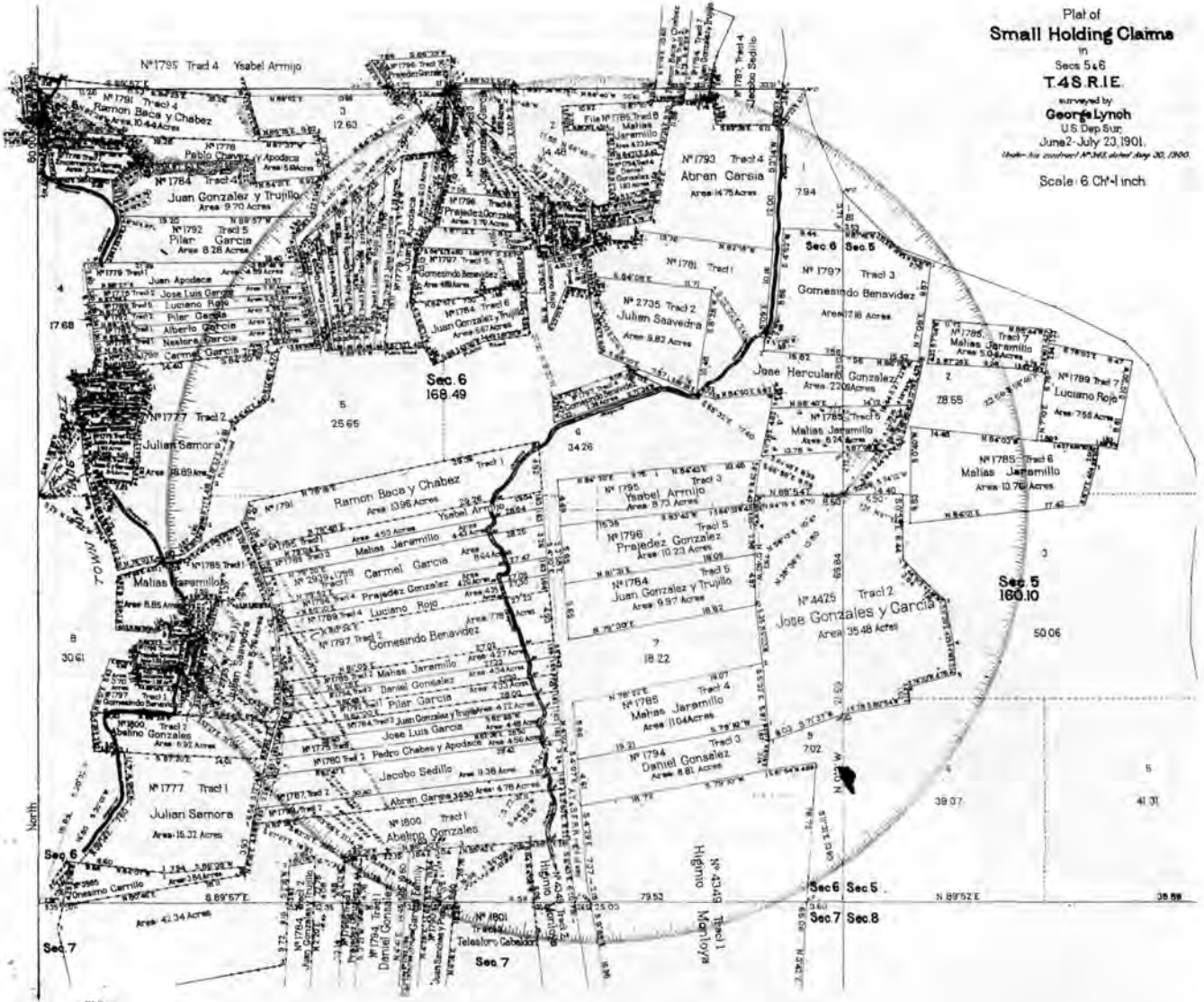
Nowhere was the conflict between Hispanic and American concepts of land tenure and land-use more obvious than in the adjudication of land grants. Where American land holdings were described by an abstract legal grid, Hispanic land descriptions were tied to real, although vague, geographic markers. In the Anglo system, land-use was regulated by legal title and the nature of individual economic pursuits. Hispanic lands were usufructs based on a widely shared set of land-use values.

Schematically the land-use areas coincide with the distribution of plant communities. Map 25 shows the distribution of plant communities as they existed in 1880. The riparian community was the approximate boundary of Hispanic farm lands, timber resources were found in mountain meadows, and grasslands were used for pasture.

The Office of the Surveyor General was charged with the responsibility of investigating Hispanic land claims and making recommendations concerning the validity of these claims in Congress. Neither the Surveyor General, Congress, nor land

grant heirs found the procedures entirely satisfactory. The New Mexico State Planning Office (1971:28-31) lists a number of reasons the procedures were unsuitable to settle the land claims questions. Few land grant heirs could afford the legal survey of the land or the expense of legal counsel. Others may have feared turning over title documents. The Surveyor General's Office was never sufficiently funded to handle grant cases. The complications of applying Spanish and Mexican land law and custom to American adjudication processes meant that there were long delays in handling cases. A group of ambitious lawyers, judges and politicians, known as the Santa Fe Ring, stepped forward to assist the land grant heirs. In many cases members of the Ring profited more than any of the heirs. Howard Lamar (1970:136-170) presents an excellent summary of the devices used by the Santa Fe Ring to enlarge their personal land holdings while supposedly defending the rights of land grant heirs. After 1879 Congress did not act on any recommendations of the Surveyor General (New Mexico State Planning Board 1971:30). In spite of these problems, 11 land

Plat of
Small Holding Claims
 in
 Secs 5 & 6
T.4S.R.1E.
 surveyed by
George Lynch
 U.S. Dep. Sur.
 June 2 - July 23, 1901.
(Under his contract No. 566, dated May 30, 1890.)
 Scale: 6 Ch-1 inch



Map 23. Small Holding Claims in the Village of Luis Lopez.

grants within the Central New Mexico Overview area were acted upon by Congress. These land grants are listed in Table 22. The Jornada del Muerto land grant was the only Central New Mexico claim rejected by Congress.

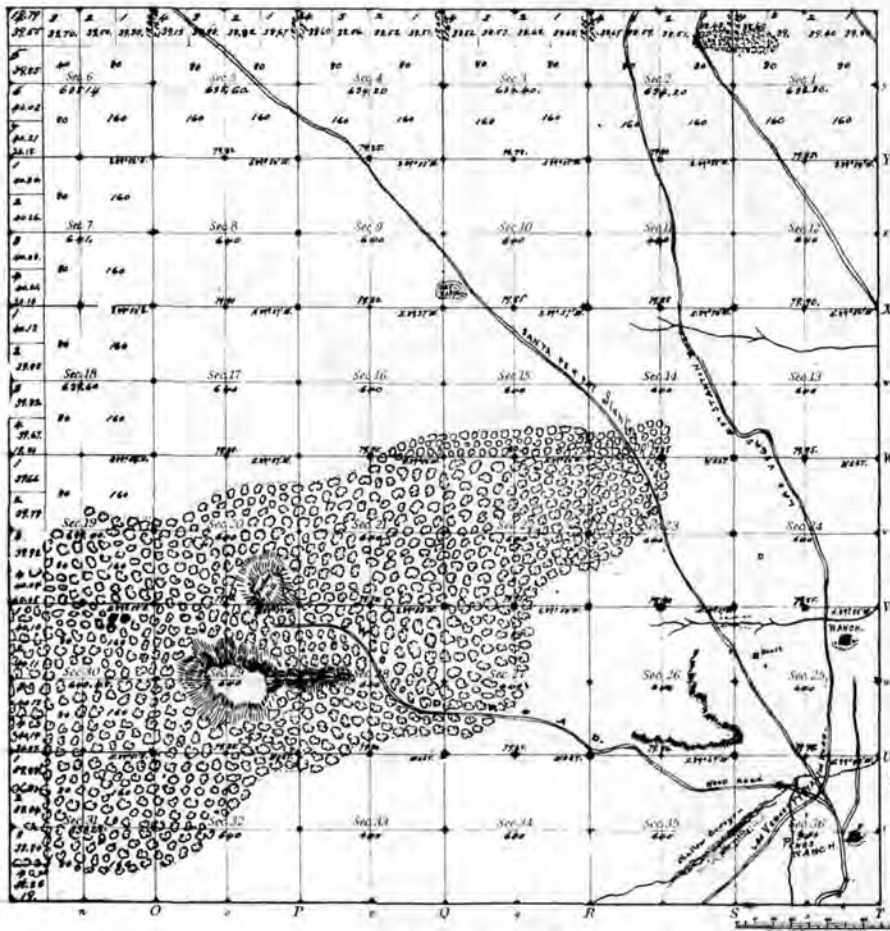
The Court of Private Land Claims was created in 1891 as a judicial board to review land grant claims. For 13 years the court presided. The Court heard cases for 13 land grants in the Central New Mexico Overview area. The findings of the court with respect to Central New Mexico land grants is summarized in Table 23. The legal history of each land grant is given in Bowden (1969), while the actual case files can be found in the State Archives and Records Center and at the University of New Mexico.

The net effect of land grant adjudication was to settle the legal status of large tracts of land throughout the state. Lands in grants that were found to be invalid claims were returned to the public domain for disposal under the various settlement acts cited above. Titles that were upheld passed to private ownership, not always the heirs who filed the claims.

Land fraud became so blatant and so widespread that a special investigation was undertaken by Democratic President Cleveland's administration in 1885 to put a stop to what was called the "Fraudulent Acquisition of Titles to Land in New Mexico" (Secretary of the Interior 1885). The power of the Santa Fe Ring was crushed. No longer could these lawyers, judges, and politi-

TOWNSHIP N: 3. NORTH. RANGE N: 12. EAST OF THE NEW MEXICO PRINCIPAL MERIDIAN

G F E D C B A



Members of

Surveyor General's Office
Santa Fe, New Mexico.
December 16, 1880

I hereby certify that as settled on the Public Land in this Township Alexander Costa Julian Ribera and others have bid under Section 3401 of the United States Revised Statutes at the Designated Depository of Santa Fe on June 30 and December 11, 1880 make deposits of funds amounting to \$711.22 for the survey of this Township and the expenses incident thereto to wit: For the said Costa \$300.00 and for the Office Work \$411.22

And I further certify that of said deposit for survey \$411.22 was expended, being to be refunded to the said depositors nothing and of said deposit for Office Work \$300.00 was expended, leaving to be refunded to the said depositors nothing.

Wm. M. Cottonson
Surveyor General.

Survey Proposed	By Whom Surveyed	Date of Commence	Amount of Survey	When Surveyed	Original Description
Township West	FRANCIS M. MASON	JULY 5th 1879	36 Secs 36	JULY 1879	12 EAST
Subdivisions	FRANCIS M. MASON	JULY 5th 1879	36 Secs 36	AUGUST 1879	12 EAST
Section 6	FRANCIS M. MASON	JULY 5th 1879	36 Secs 36	JULY 1879	12 EAST

Total number of Acres 22,656.00

We give copy of Township 3 North of Range 12 East of the Principal Meridian in New Mexico as shown on the field notes of the survey thereof on file in this office which have been examined and approved.

Surveyor General's Office
Santa Fe, New Mexico, 1880

Wm. M. Cottonson
Sur. Genl.

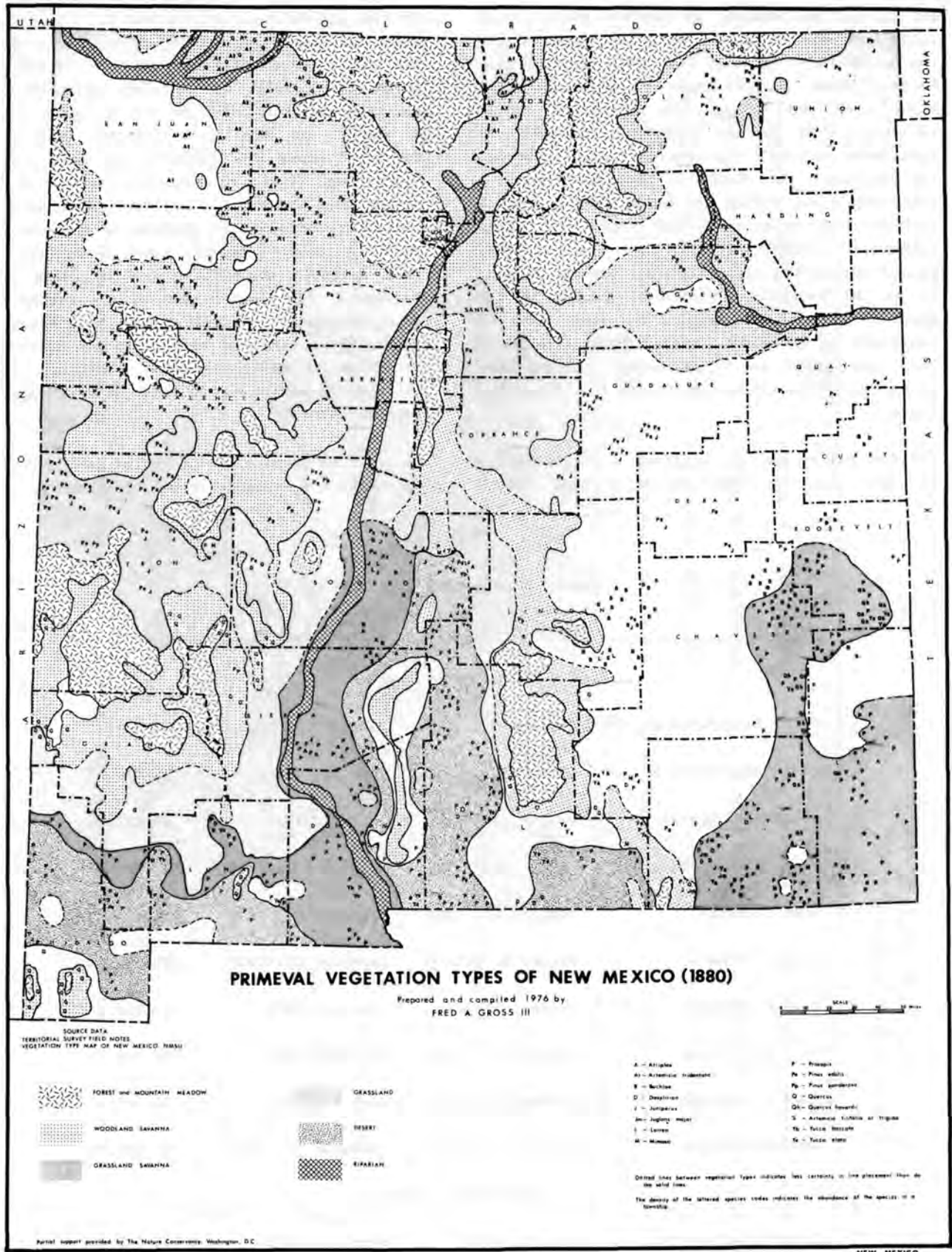
Map 24. Plat of Township 3 North, Range 12 East.

cians obtain titles to land grants. Public land laws were not changed until the Stock-raising Homestead Act 1916 was passed, but economic factors and the growing number of settlers in New Mexico combined to make it more difficult to illegally acquire large tracts of public domain.

The Growth of Industry and the Quest for Statehood

Construction of trans-continental railways had profound effects on the regional geography of the American Southwest (Meinig 1971:38). As a result of improved supply systems and market outlets, technical and economic innovations were made in

Hispanic and Anglo social institutions and industries throughout New Mexico. The railway surveys began in the Southwest shortly after the Mexican War, but it was not until 1879 that the first transcontinental railways, the Denver and Rio Grande (D&RG) and the Atchinson, Topeka & Santa Fe (AT&SF) reached New Mexico. The D&RG did not actually enter New Mexico in 1879, but turned west at Raton Pass and headed for mines at Leadville, Colorado. A narrow gauge later connected the D&RG to the Rio Grande Valley in New Mexico. The AT&SF entered New Mexico through Raton Pass, but needed a spur line to reach Santa Fe.



Map 25. New Mexico Vegetation Types in 1880.

For central New Mexico, as for New Mexico as a whole, the AT&SF was the more important of the two railways. By 1880 the AT&SF reached San Marcial where a new townsite was constructed around railroad maintenance facilities and a switching yard (Myrick 1970:20; Williams and McAllister 1979:42). To shorten the route across the continent, the AT&SF in 1908 constructed a southerly route called the Belen Cutoff (Myrick 1970:35-37). This route cut across the Texas Panhandle, entered Clovis, New Mexico, then passed across the eastern plains through Vaughn, on to the emerging agricultural center in the Estancia Valley, then joined the main trunk of the Santa Fe at Belen. Feeder lines were built from the AT&SF to reach mines, agricultural lands, and stock raising districts throughout the state.

The New Mexico Central Railroad was constructed in 1903 from the AT&SF depot of Lamy, south

through the Estancia Valley and on to Willard, a depot on the Belen Cutoff (Myrick 1970:51-57). The New Mexico Central was a speculative proposition, built to encourage settlement and agricultural production in the Estancia Valley. A number of small agricultural settlements developed along the railroad (Map 26). The New Mexico Central was extended to Torrance, a depot on the Southern Pacific Railroad, and eventually linked Estancia Valley produce to markets in El Paso. A feeder line, the Santa Fe Central, lead from Estancia to coal fields at Hagan and a smelter at San Pedro. Most of the feeder lines were abandoned by 1930 when the mines and agricultural ventures were no longer profitable, but 28 miles of the New Mexico Central between Willard, Estancia and Calvert is still operable (Myrick 1970:57).

In order to promote the growth of New Mexico, and to ensure the economic stability needed to attain

Table 22

Central New Mexico Land Grants*

Grant	Date of Petition	Date of Action	Acreage
Confirmed by Congress			
Pedro Armendaris No. 33	September 6, 1859	June 21, 1860	352,504.51
Pedro Armendaris No. 34	June, 1857	June 21, 1860	95,030.67
Bosque del Apache	July 7, 1859	June 21, 1860	60,117.39
Town of Casa Colorado	1856	December 22, 1858	131,779.87
Town of Belen	January 26, 1857	December 22, 1858	196,663.75
Town of Tome	August 6, 1856	December 22, 1858	121,594.53
Town of Manzano	January 9, 1856	June 21, 1860	17,360.94
Town of Torreon	January 8, 1856	June 21, 1860	14,146.11
Town of Tajique	February 3, 1857	June 21, 1860	14,146.11
Town of Chilili	January 3, 1857	December 22, 1858	41,481.00
Rejected by Congress			
Jornada del Muerto	May 23, 1859	March 4, 1872	2,500,000.00

* Sources: Land Title Study (1971: 222-223).

J. J. Bowden (1969: passim).

Table 23

Disposition of Grant Claims by the Court of Private Land Claims

Central New Mexico Land Grants

Claim No.	Claimant	Name	Date of Petition	Claimed Area	Confirmed Area	Rejected Area	Date of Action
13	City of Socorro et al.	Town of Socorro	1892	17,371.18	17,371.18		01/11/1896
20	J. Francisco Chaves	Nerio Antonio Montoya	12/19/1863	3,546.00		3,546.00	12/22/1899
37	Martin B. Hayes	Antonio Chaves - Arroyo de San Lorenzo	08/15/1873	130,138.00		130,138.00	12/1893
55	Felipe Peralta et al.	Sevilleta	10/05/1874	261,187.90	261,187.90		12/04/1893
58	Eloisa L. Bergere et al.	Bartolome Baca	01/09/1893	500,000.00		500,000.00	01/31/1898
63	Frank Huning	Diego de Padilla or El Tajo	05/31/1872	24,800.00		24,800.00	09/1894
64	J. Franco Chavez	San Clemente	01/21/1893	95,000.00	37,099.29		09/04/1896
127	Eutimio Montoya	Town of Socorro	02/27/1893	843,259.00		843,259.00	08/29/1899
152	Joel P. Whitney et al.	Estancia	07/12/1855	415,036.00		415,036.00	04/15/1901
158	Felicita Crespín	San Acasio	03/02/1893	18,000.00		18,000.00	02/1895
165	Edwardo Otero et al.	Guadalupe Mine	10/02/1892	16,000.00		16,000.00	09/04/1899
273	Pueblo of Isleta	Lo de Padilla	01/27/1896	51,940.82	51,940.82		11/03/1896

Source:

Land Title Study (1971:228,234).

J. J. Bowden (1969:passim).

statehood, the New Mexico Bureau of Immigration was established in 1880. The Bureau stimulated immigration by disseminating vital statistics about the natural resources of the counties (Lange 1976:195). The propaganda worked well, for by 1910, two years before statehood, many new towns were established in Torrance and Socorro Counties (Table 24). Torrance County, particularly the Estancia Valley, exhibited the most remarkable growth during the final years of the Territory.

An unpublished report on the Estancia Valley by the Bureau of Agricultural Economics (Heringa), written in 1906, outlines the rapid growth of settlement in the valley. Between 1905 and 1906 over 500 homesteads were filed in the vicinity of Estancia, the first of many homestead communities in the valley. About 65% of the settlers came from Iowa, Kansas and Oklahoma. Homesteaders came with the dream of developing small dry-land farms or irrigated farms on their 160 acre tracts. The Bureau of Immigration, and railway publications, provided settlers with descriptions of dry farming techniques, most of which failed in all but extraordinarily wet years. By reading between the lines of the immigration brochures it is apparent that water, even for domestic use, was only available by digging wells. The 1906 Bureau of Agricultural Economics report states that water was available at 15 feet and 35 feet below the surface, but the heaviest flow was found at 80 to 120 foot depths.

Nevertheless, the population of the valley grew rapidly and commercial bean and grain farming ventures were established. By 1910, there were 2,069 farms in Torrance County and a total of 369,744 acres under cultivation, about 17% of the total area in the county. The average size of farm holdings was listed as 178.7 acres, with 35.8 acres in cultivation (U.S. Department of Commerce and Labor, Bureau of Census 1913:614). Socorro County at this time had 1,122 farms, 626,670 acres in cultivation, with average farm holdings of 558.5 acres, and 20.8 acres in cultivation (U.S. Department of Commerce and Labor, Bureau of Census 1913:614). In Socorro County 75 to 90% of all farms were irrigated, while in Torrance County less than 5% of the farms were irrigated. In spite of the smaller number and size of cultivated tracts, Socorro County farms had higher agricultural yields than Torrance County farms.

In 1911, Ellsworth Huntington visited the

Table 24

Central New Mexico Population
1900 - 1910

Plains Villages

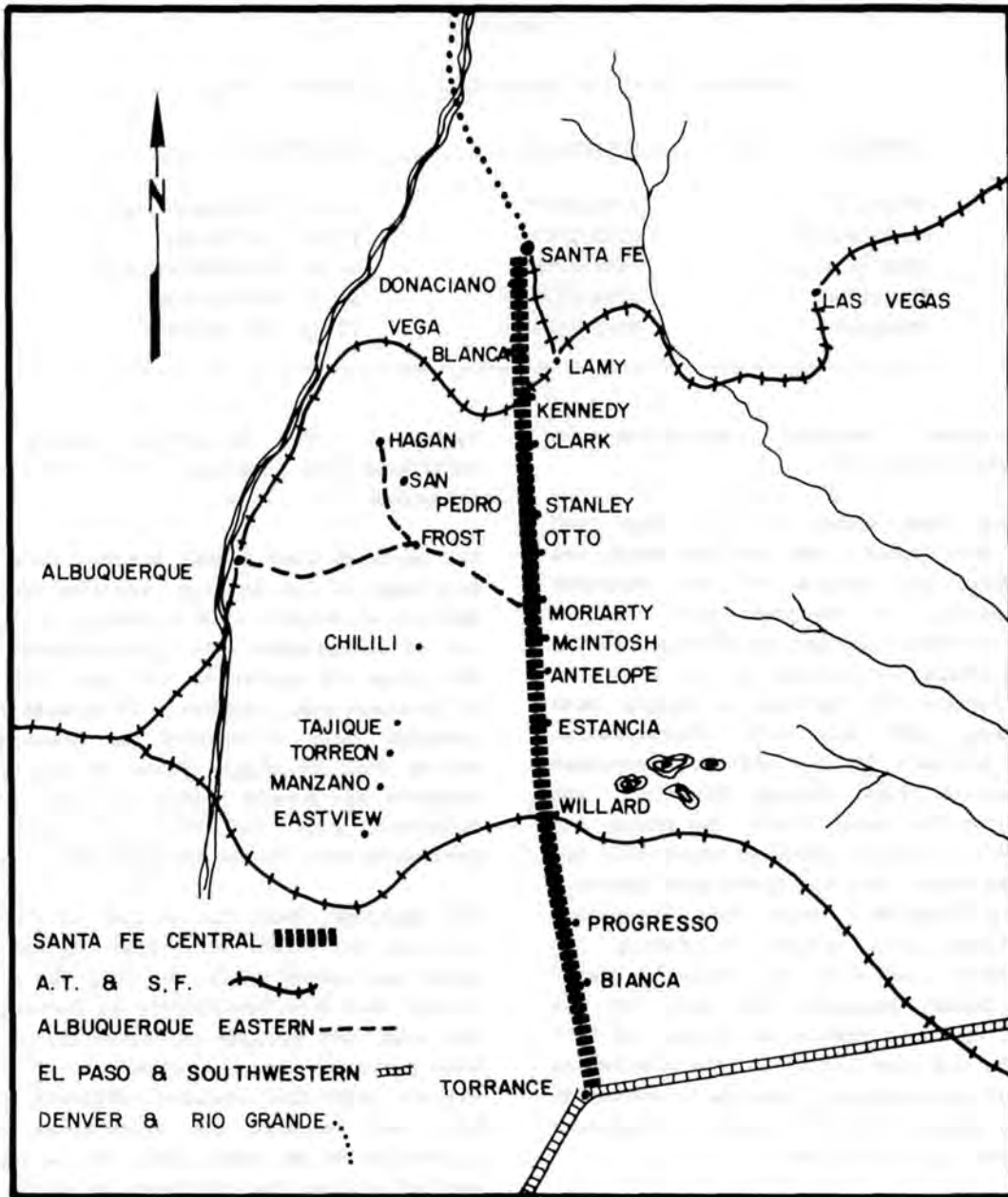
	1900	1910
Tajique	318	783
Torreón	472	755
Manzano	649	607
Cienega	182	247
Punta	100	632
Willard		1,113
Estancia		1,317
Moriarity		609
Palina		454
Duran		564
Pinos Wells		732
Encino		376
Abo		309
Lucia		191
Mountainair		859
McIntosh		571
San Pedro	276	85
Estay		67

Rio Grande Villages

Socorro	1,512	1,560
Lemitar	428	458
Polvadera	417	309
Sabinal	317	344
La Joya	342	345
San Antonio	642	434
Contadero	142	147
Paraje	282	103
New San Marcial	599	695
Old San Marcial	419	500
Valverde	300	255
Luis Lopez	299	231
San Antonita		255
San Acacia	460	225
Bosquecito	128	99
Escondida	297	250
Casa Colorado	219	312
Carthage		448
Elmendorf		12

* Sources

1900 Compendium of the Twelfth Census:
Aggregate Population by Minor Civil Subdivisions
1910 U.S. Department of Commerce and Labor,
Bureau of Census (1913:576-577).



Map 26. The New Mexico Central Railroad.

Estancia Valley to collect information about the Salinas Pueblos for his 1914 study of climate and cultural succession. His diary entry for April 1 notes that 50-75% of the homesteaders who came to the valley between 1905 and 1909 had been driven out in 1910 by repeated crop failures caused by drought, and the high cost of digging deep wells.

The grasslands east of the Manzano Mountains had been claimed in Spanish and Mexican period land grants because of their importance as pasture. These lands continued to be important to the

stock raising industry that flourished in New Mexico immediately following the Civil War. Neither Torrance County nor eastern Socorro County, however, would ever be as important to the stock raising industry as southeastern or southwestern New Mexico. The Chisum Trail, one of the principal stock driveways leading across New Mexico to California in the 1870s and 1880s, traversed the Central New Mexico Overview Area. A number of short-lived ranching communities developed on the plains to serve the stock industry. Williams and McAllister (1979) list

Table 25

Abandoned Ranching Communities of Torrance County

Community	Occupation	Location
Eastview	1890-1919	10 mi. NE Mountainair
Pinos Wells	1884-1919	29 mi. SW Vaughn
Gran Quivira	1904-1968	19 mi. SE Mountainair
Progreso	1894-1930	14 mi. SE Willard
Pedernal	1917-1955	21 mi. ENE Willard

several abandoned ranching communities in Torrance County (Table 25).

The propaganda that worked to bring dry land farmers to New Mexico also brought gold and silver seekers and miners of any remotely profitable mineral or low-grade ore. Neither Socorro nor Torrance counties had mining deposits that would sustain the economy for any length of time, but Socorro did witness a mining boom between about 1870 and 1893 (Christiansen 1974:68-69; Ashcroft 1981). Silver, discovered in the Socorro Peak Mining District, was responsible for the modest boom. Two mines, the Torrance and the Merrit, produced about \$750,000 income in the short time the mines were operated (Christiansen 1974:68). Much more prosperous mining ventures were opened at Kelley and Magdalena where lead ores were mined. Gustav Billing, a German Immigrant and owner of the Kelley mine, opened a smelter at Socorro in 1881 to refine the ore from Kelley and other mines in the area. It was successful enough to encourage the AT&SF to build a spur line from the Magdalena Mining District to the smelter.

The presence of smelters at Socorro and the success of the Magdalena Mining District and other mines in the San Mateo Mountains, particularly the gold strikes at Rosedale, brought about a certain amount of prospecting throughout Socorro County in the 1870s and 1880s (Northrop 1959: passim; File and Northrop 1966:41-45). File and Northrop (1966) list twenty-six mining districts in Socorro and Torrance counties, only seven of which are within the Central New Mexico overview area (Table 26 and Map 27).

By 1893, with the demonetization of silver, the smelting operation at Socorro was no longer profitable, and the mining districts could not be

sustained. The Hansonburg Mining District, containing the Carthage Coal Field, was the exception.

The Carthage Coal Field, located about 10 miles southeast of San Antonio, supplied the Billings Smelter at Socorro with a readily available supply of inexpensive coke (Christiansen 1974:69). This does not appear to have been the first use of Carthage coal, however. Historical literature contains many references to American troops mining coal to supply forts on the Middle and Southern Rio Grande. Each reference mentions a different date for what is known as the Government Mine in the Carthage Coal Field.

The earliest date for mining at Carthage was probably the 1850s when Fort Conrad and Fort Craig were established. In 1882 the AT&SF added a spur line from San Antonio to Carthage to haul the coke, but stopped the route in 1894 or 1895 when parts of the mine closed for a short time (Myrick 1970:139; Gardner 1910:452-460). The mine was reopened for large-scale commercial production in the early 1900s, and a new railroad was built along the old Santa Fe route. The New Mexico Midland Railroad started in 1906 and operated until 1931, about six years after the Carthage field ceased operations (Myrick 1970:142). The New Mexico Midland continued to haul coal from the Tokay mine, about two miles south of the Carthage field. Tokay, named for a variety of grape and sweet wine, was established in 1915 and operated until about 1950 (Anon 1968). When the New Mexico Midland disbanded, coal from Tokay was trucked to San Antonio.

The most important economic mineral in Torrance County is found in the Scholle Mining District. The salt deposits that were so vital to Spanish Colonial industry continued to be important for more recent residents of New Mexico.

Table 26

Mining Districts*

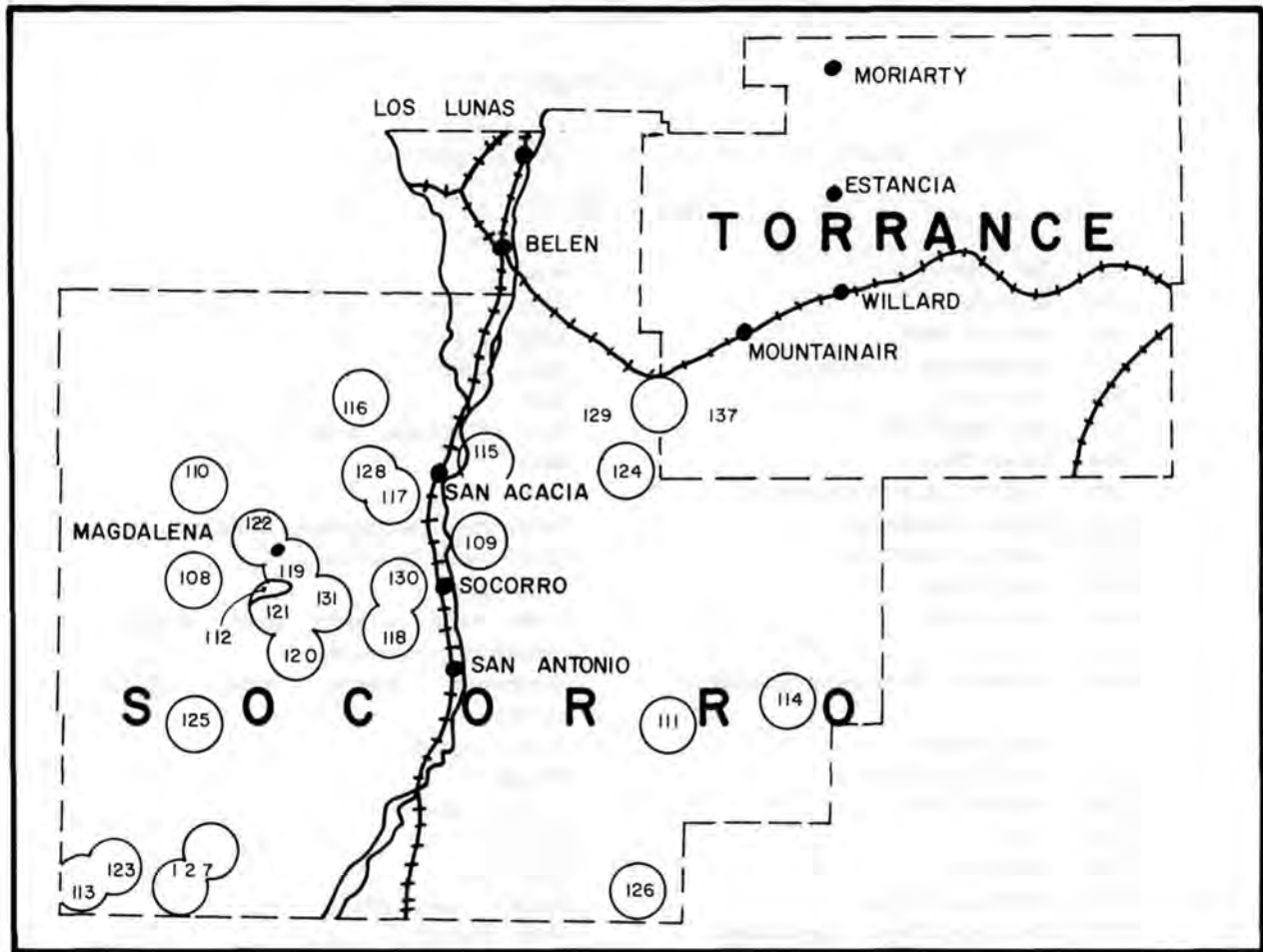
District	Minerals
Socorro County	
108. Cat Mountain	Gold
109. Chupadera	Copper, lead
110. Council Rock	Lead, silver
111. Hansonburg (Carthage)	Lead, copper
112. Hop Canyon	Gold
113. Iron Mountain	Iron, tungsten, beryllium
114. Jones Camp	Iron
115. Joyita Hills (Canyoncito)	Lead
116. Ladron Mountains	Lead, zinc, manganese, uranium.
117. Lemitar Mountains	Zinc, lead, uranium
118. Luis Lopez	Manganese
119. Magdalena	Zinc, lead, copper, gold, silver, manganese, vanadium
120. Magdalena Mountains Manganese	Manganese, copper, zinc, gold, silver
121. Mill Canyon	Copper, gold
122. North Magdalena	Copper
123. Ojo Caliente	Copper, lead
124. Rayo	Copper
125. Rosedale	Gold
126. Mockingbird Gap	Copper, lead, zinc
127. San Jose (Nogal, San Mateo)	Gold, silver
128. San Lorenzo (San Acacia)	Copper, uranium
129. Scholle	Copper, silver, uranium
130. Socorro Peak	Silver, lead
131. Water Canyon (Silver Mountain)	Copper, lead, zinc, gold, silver, manganese
Torrance County	
137. Scholle	Copper, uranium

* Source: File and Northrup (1966).

Northrup (1959:276) estimates that the salt deposits cover an area of about 13,500 acres; the largest deposit is known as Laguna del Perro. Johnson (1902b:80-87), who visited the saline deposits near Willard in 1900, stated that these supplied ranches within a one hundred mile radius. The purer salt was trucked to more distant parts of the state for sale. Johnson (1902b:85) described the process of mining the salt at a saline just west of Lucy, New Mexico. The purer salt was found at the bottom of the lakes, so wagons were driven into the shallow salines and loaded with the damp salt. Two types of salt seem to have been mined: coarse, dark salt for livestock, and purer, whiter salt for

table use. Although not a vital commercial or industrial deposit, the Torrance County salt mines were a vital resource to the ranching industry of New Mexico.

Expansion of population, growth of industrial production, and participation in national markets followed the development of railways in New Mexico. A secure economic base, and participation in the national economy, were among the important issues in the fight for statehood. Factionalism within the territory and eastern prejudice against New Mexico's Hispanic heritage, however, combined to prevent statehood until 1912. Lamar (1970:171-201) provides an excellent



Map 27. Central New Mexico Mining Districts.

analysis and summary of the issues and resolutions that ultimately led to statehood for New Mexico. Hispanic tradition as well as American law and culture had to be sensitively balanced in the process. The state constitution, drafted in 1910 by 100 delegates, managed to protect tradition and to embrace the more conservative elements of national policy. On January 6, 1912 New Mexico became the 47th state.

STATEHOOD: 1912 - PRESENT

Another Attempt at Homesteading

Two distinct phases of homestead settlement occurred in New Mexico. Figure 7 graphs the number of homestead patents issued in New Mexico between 1837 and 1960. Although the graph does not show those claims filed and then later relinquished or cancelled, general trends in homestead processing can be demonstrated. Figure 7 shows that the first phase of homestead

activity began just after the turn of the century and subsided in the years immediately preceding statehood. This phase corresponded with the completion of transcontinental railway construction and the concerted efforts of the territorial government to promote the population needed to secure statehood. The effects of homesteading were more apparent in Torrance County and on the plains of eastern Socorro County than along the Rio Grande, where lands had been claimed under earlier settlement expansions.

The second phase of homesteading, although not as widespread as the first, began about 1910, accelerated around 1920, then rapidly declined about 1924. This phase can be attributed to changes made in the Homestead Act in 1916. The Stock-raising Homestead Act of 1916 allowed settlers to file claim to 640 acres of the Public Domain, if these lands were primarily valuable for grazing and raising forage crops, had no commercial timber values, and did not contain

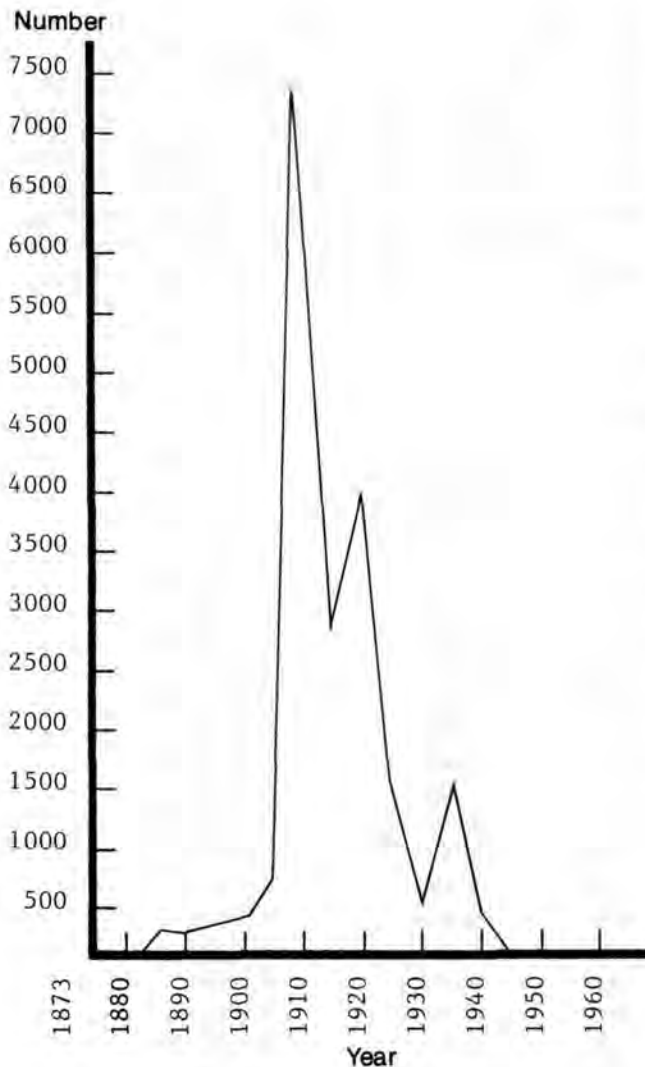


Figure 7. New Mexico Homestead Patents (after Levine et al. 1980).

irrigation waters (General Land Office 1925:1). The expanded acreage and special benefits available under the Stock-raising Homestead Act encouraged veterans returning from World War I to file for homesteads. Table 27 summarizes the number of patents and total acreage patented in New Mexico between 1837 and 1944. Six General Land Offices opened in New Mexico between 1900 and 1919 to serve the flood of immigrants. The Central New Mexico Overview area was served by the Santa Fe, Roswell and Las Cruces offices (Map 28).

This phase of homesteading was associated with a more intensive land-use strategy than had been practiced by the earlier homesteaders. As an example, Map 29 shows the 1922 settlement pattern

of Township 1 South, Range 9 East, near Claunch, in eastern Socorro County. Fence lines dividing individual holdings, large cultivated dry farming tracts, and roads proliferated during this period. The Public Domain was shrinking, and with it declined the large sheep and cattle ranches that had used the plains since the Colonial Period.

The Estancia Valley prospered during this homestead effort. The second group of Estancia Valley homesteaders, coming primarily from Texas, Oklahoma, and Kansas, practiced a more specialized economy than the first wave of immigrants. Because of the aridity of the area and the short growing season, few crops could be grown. Pinto beans were the most successful crop for these conditions, and by 1930 beans were the principal market crop. A 1936 sociological study of the Estancia Valley reported 77% of the 74,713 acres of available crop land in Torrance County was put in bean production (Soil Conservation Service 1936:1). Yields per acre varied considerably, depending upon soil and moisture conditions, but ranged between 30 pounds per acre in marginal areas to 800 pounds per acre under ideal conditions. Over a ten year period (1930-1940) the average yield per acre was slightly less than 300 pounds (Culbert 1941:59). At the price of \$1.15 to \$4.75 per 100 pounds, bean farming was hardly a profitable undertaking. Crop mortgages, tenant farming, and mechanized equipment were used to enlarge the size of farms and to increase family income. Some families supplemented their income with the sale of dairy products and beef cattle (Soil Conservation Service 1936:5). A report on dry farming in Roosevelt and Curry counties of far eastern New Mexico specified the conditions under which dry farming practices could sustain a farm family:

If a farmer has an assured supply of stock feed and a market for livestock and livestock products at his command and he and his family are satisfied to live mainly off the products of the farm, he can continue to farm in such an area indefinitely (Wootton 1927:8).

A widespread drought ravaged New Mexico livestock and farming industries in the 1930s. Range lands that had been overgrazed for decades were subject to erosion, creating dust bowl conditions. Commercial bean farming in the Estancia Valley was subject to the same liabilities that troubled other single cash crop farming regions; namely drought, disease,

market conditions, and rising production costs. The drought brought about a major change in farming strategy for those who could afford to develop irrigation wells (Bourlier et al. 1970:146). Those who could not afford to develop irrigation facilities were forced to leave the area. John Sinclair (1943, 1977), in his historical and fictional works, records the second phase of homesteading in the Estancia Valley.

At a time when wind erosion was creating dust bowl conditions in the Torrance County dry farming area, floods began to alter the channel of the Rio Grande below Socorro. Hugh G. Calkins (1937), Regional Conservator for the Soil Conservation Service, traced the history of late summer and early autumn flooding that began about 1911, and in 1929 destroyed crops in villages from San Acacia to San Marcial, then virtually destroyed

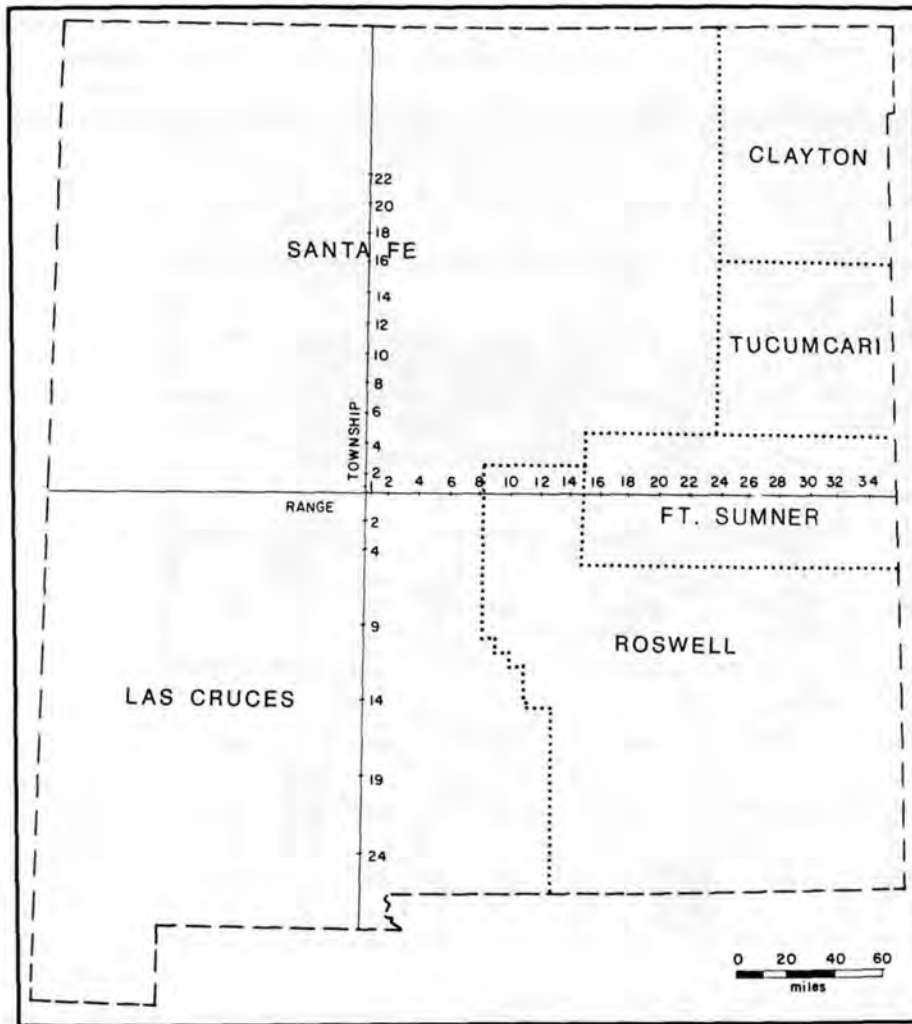
Table 27

New Mexico Homestead Patents

Year	Number of Patents	Acreage	Year	Number of Patents	Acreage
1873	4	640	1909	9,107	1,368,393
1874	1	640	1910	7,198	1,237,489
1875	8	1,284	1911	3,501	627,298
1876	37	5,541	1912	2,541	394,928
1877	7	1,040	1913	3,617	565,321
1878	8	1,159	1914	3,107	495,793
1879	9	1,259	1915	2,913	465,527
1880	15	2,000	1916	3,124	589,888
1881	225	38,602	1917	2,746	562,912
1882	266	37,166	1918	3,007	620,616
1883	551	81,487	1919	2,939	633,853
1884	277	40,215	1920	4,119	935,876
1885	192	27,754	1921	3,803	917,654
1886	177	23,143	1922	3,653	938,333
1887	103	15,120	1923	2,303	708,175
1888	141	20,758	1924	2,224	707,029
1889	142	19,876	1925	1,798	567,488
1890	147	21,573	1926	1,617	528,436
1891	241	36,494	1927	1,307	447,739
1892	225	33,430	1928	820	279,996
1893	347	53,215	1929	945	337,144
1894	248	37,210	1930	579	204,416
1895	200	30,671	1931	612	223,444
1896	209	31,474	1932	488	194,762
1897	278	41,686	1933	621	243,087
1898	371	56,274	1934	491	243,087
1899	374	52,048	1935	1,137	484,200
1900	322	45,927	1936	1,183	510,615
1901	459	58,789	1937	1,295	570,063
1902	388	55,580	1938	822	357,758
1903	465	67,633	1839	563	248,100
1904	529	79,850	1940	307	133,504
1905	829	128,034	1941	129	57,277
1906	1,018	157,108	1942	72	27,054
1907	1,343	206,306	1943	34	14,640
1908	3,035	495,271	1944	11	2,974

Source:

Levine et al. (1980).



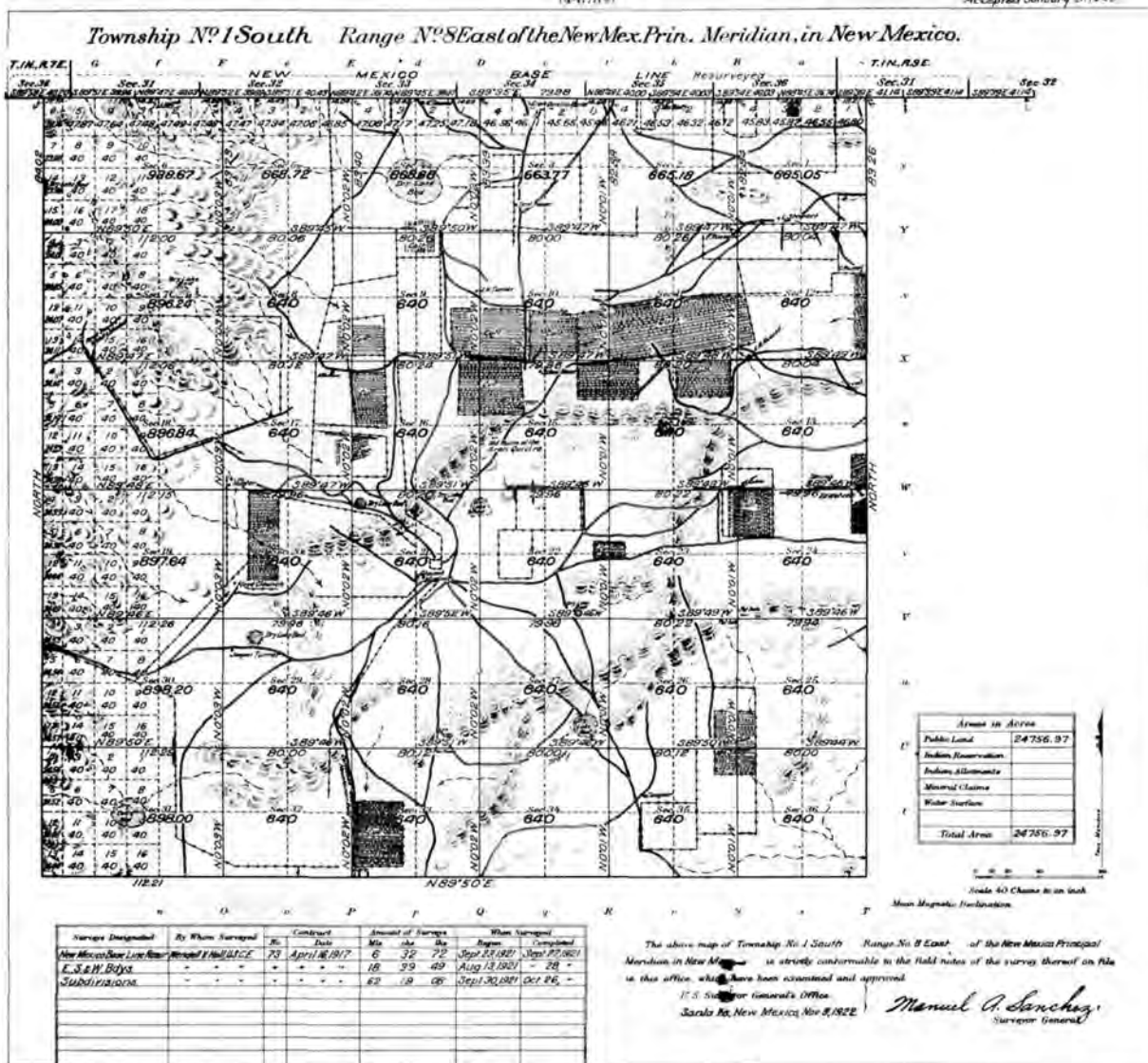
Map 28. Areas Served by New Mexico General Land Offices.

the towns of New San Marcial, Old San Marcial, Valverde, and La Mesa (Calkins 1937:9-11). Floods occurred again in 1937 (Calkins 1937) and in 1941 (Harper et al. 1943:35). The village of Contadero was condemned during construction of Elephant Butte Dam in 1916, and flooded in 1924 (Calkins 1937:14).

After the 1929 flood, the AT&SF Railroad moved all its facilities from San Marcial to Belen. The former area entered into an economic decline from which it has never recovered. The combined population of the villages of Contadero, New San Marcial, Old San Marcial, Valverde, and La Mesa dropped from 1,797 in 1910 to 703 after the 1929 flood, and by 1940 there were only about 150 people in the area (Calkins 1937:13; 16th U.S. Census; Aggregate Population by Minor Civil Subdivisions). Harper et al. (1943) discuss the social, economic and political processes that

culminated in the 1930s and early 1940s to cause considerable community disintegration throughout the Middle Rio Grande. The factors, most visible as intensive land-use practices, included the conflict between Anglo and Hispanic economic strategies, the growing commercial use of range lands and agricultural lands, the loss of individual and community land grants, and the use of railroad land grants (Harper et al. 1943:56-65).

The 1930s were a time of great mobility for the male population of New Mexico, particularly among Hispanics. High paying jobs were available in the mine and sugar beet fields of Colorado, and on commercial ranches in Montana, Wyoming and Utah. Other men took what work they could find with the Works Progress Administration or the Civilian Conservation Corps. This out-migration of laborers continued through World War II, and



Map 29. Settlement Pattern in T. 1 S., R. 8 E.

quicken with the construction of the interstate road system (Leonard and Loomis 1941; Hurt 1941; Leonard 1970; Weigle 1975:35-38; Meining 1977-81). Once again networks connecting supply outposts and market centers were restructured, and the population resettled accordingly. Albuquerque, Las Cruces, Clovis, Roswell, and Farmington, each in turn became boom towns. The Central New Mexico Overview Area receded to a settlement pattern similar to that which occurred during the Mexican Period. The middle Rio Grande Valley retained its importance as an agricultural area, and as a series of supply posts along the major north-south highway. Torrance County range land assumed dominance over farming, as a result of the increasing need for and cost of irrigation

development. A new land tenure pattern developed with the creation of National Forests and the passage of the Taylor Grazing Act.

The Growth of Federal Land Management

The 1890s saw the rise of Populism in the United States, and with it a concern for the conservation of America's natural resources. It was during this period that the policies and procedures of the General Land Office were reviewed, and the Public Land Reform Act of 1891 was passed (Gates 1968:340). One of the most important provisions of the Act authorized the President to establish by proclamation Forest Reserves from public land. For six years there was consid-

erable opposition to the implication that the Act permitted the Federal government to hold the land and timber resources in perpetuity. The National Forest Reserve Act of 1897 was passed to allow the harvesting of timber within forest reserves (Steen 1976:26-46). In 1905 National Forest management was established in the Department of Agriculture. The mandate for the management of the Nation's timber resources was modified in 1960 with passage of the Multiple Use and Sustained Yield Act. The Act was a supplement to the 1897 Act, and provided for the comprehensive, planned management of timber, livestock, watershed, wildlife, and recreation resources (Steen 1976:297-307). In 1976, after litigation involving the review of Forest Service timber harvesting procedures, the Forest Management Act was passed to clarify and expand the range of timber products that could be harvested from National Forests.

Within Torrance County the Cibola National Forest manages two parcels of land totaling 204,657 acres. One parcel is in the Manzano Mountains, bordering and encompassing some of the early Mexican Period land grants; the other parcel is in the Gallinas Mountains, north and east of the Jornada del Muerto. The Cibola was created in 1931, consolidating United States Forest Service holdings in the Manzano Mountains, the Mount Taylor Area, and in the vicinity of Zuni, New Mexico. The Cibola manages timber and grassland resources and leases to local operators those resources available for harvest.

The Bureau of Land Management holds considerable land in eastern Socorro County. These lands came under BLM management in a variety of ways. Some parcels were returned to the Public Domain after being rejected by land claims hearings, other areas were and continue to be used, but have never been formally claimed for transfer from the Public Domain to the private sector. The Bureau of Land Management was created in 1946, combining the functions of the General Land Office and the Grazing Service. The General Land Office was created in 1812 to oversee the disposal of Federal lands under various settlement and land-use acts passed as the Nation grew. When the Department of the Interior was formed in 1849 the General Land Office became part of the Department.

Competition among stock raisers for rapidly dwindling range lands resulted in passage of the Taylor Grazing Act on June 28, 1934. The Act

provided that land be classified according to its highest and best use, and that all other uses be eliminated (Penny and Clawson 1968:463). Homesteading, land exchanges, conservation of wildlife, and management of watershed were also protected by the Taylor Grazing Act. For the stockman, the Act established grazing districts and a system of leasing for lands not within grazing districts (Penny Clawson 1968:463).

From 1946 to 1964 the Bureau functioned primarily to administer grazing regulations and the duties of the General Land Office. In 1964 the Classification and Multiple Use Act was passed, requiring that lands be designated for retention or disposal under the principles of multiple use. The charge for multiple use management was strengthened in 1976 with passage of the Federal Land Management Policy Act.

The multiple-use orientations of the Bureau of Land Management and the Forest Service have done much to align these two agencies, although they are located in different departments of the Federal government. Multiple-use concepts are used by both agencies for balanced conservation of environmental and cultural resources.

A major portion of the land base within the Central New Mexico Overview Area is retained in Federal ownership. Listed below is a tally of the land holdings of each agency within the two counties as of 1982. In Socorro County the largest tracts of forest lands are located in western Socorro County, outside of the overview area. The major portion of BLM land, however, is within the Central New Mexico Overview Area, and adjacent to the Rio Grande.

Socorro County

U.S. Forest Service	1,904,228 acres
Bureau of Land Management	630,652 acres
U.S. Fish and Wildlife Service	279,000 acres
National Park Service	370 acres
Bureau of Reclamation	4,055 acres
Corps of Engineers	39,170 acres

Torrance County

U.S. Forest Service	154,017 acres
Bureau of Land Management	44,373 acres
National Park Service	276 acres

The U.S. Fish and Wildlife Service is among the largest of the Federal land management agencies

in Socorro County. The Bosque del Apache and Sevilleta Wildlife Refuges are located within former land grants. The refuges are primarily nature conservancy area, but the Bosque del Apache is open for limited hunting and harvesting of grains planted by local farmers on a sharecrop basis.

The Bureau of Reclamation controls lands adjacent to the Rio Grande, which are held in conjunction with the Middle Rio Grande Conservancy District. The Conservancy was created in 1923 to provide Middle Rio Grande agricultural lands with an efficient irrigation system and to ensure drainage and flood protection for the villages (Harper et al. 1943). The Bureau of Reclamation has assisted the Conservancy to discharge its duties. In many ways the Bureau and Conservancy have taken over the roles that were traditionally assigned to the men of the Hispanic communities, and to which some status was assigned. Many of the irrigation facilities constructed as part of Elephant Butte Dam and Reservoir are for use in irrigating lush commercial farms in the Mesilla

Valley. Elephant Butte Reservoir inundated a portion of the Pedro Armendaris Land Grants when it was constructed.

The Corps of Engineers holds and manages lands that are part of the White Sands Missile Range. The lands are located in the Jornada del Muerto and the Oscura Mountains, and contain the Trinity Site. In 1967, the Trinity Site was designated as a National Historic Landmark, to preserve the site of the assembly and detonation of the world's first nuclear device. The detonation site was chosen because of its remote location, reliable weather conditions, and flat topography (Kunetka 1978:146-147). The considerable amount of land claimed for the entire missile range displaced many ranching families. Ironically, the assembly and control center of the test site was established in the former headquarters of the McDonald Ranch. A fictional account (Abbey 1978) tells the impact of condemnation proceedings on the community as a whole, but focuses particularly on one man who refused to be moved from this ranch.

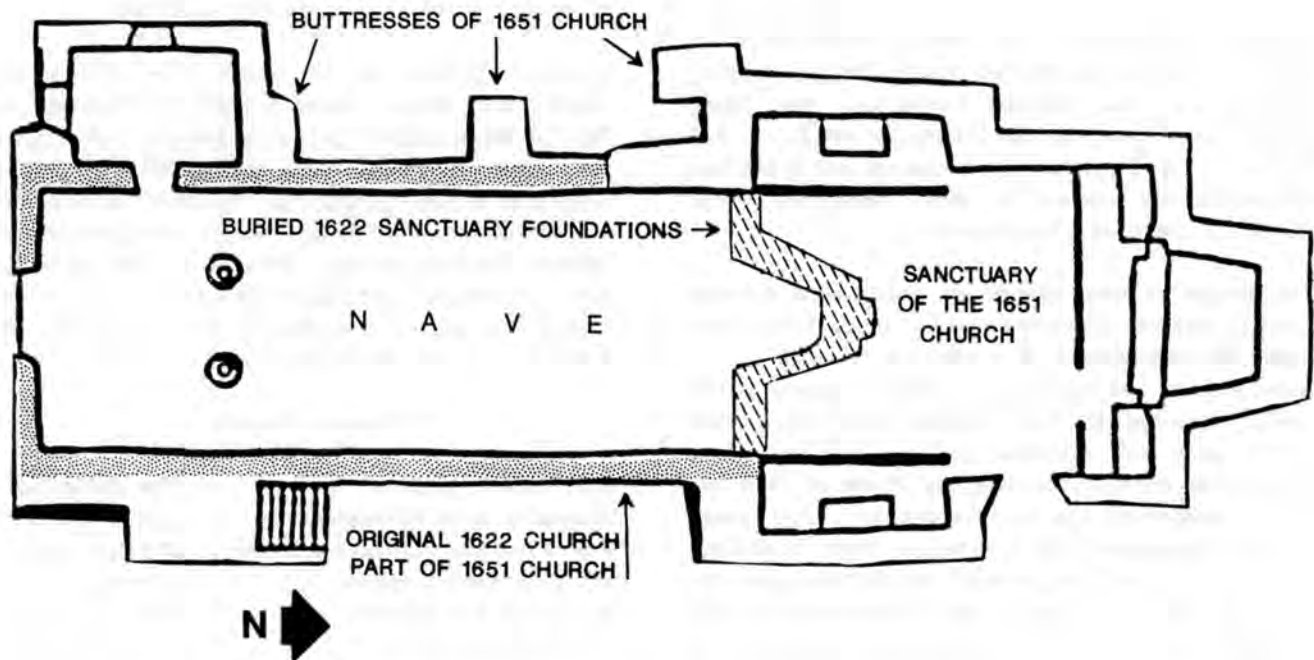


Figure 8. National Park Service sketch map of the church (San Gregorio de Abo Mission) at Salinas National Monument. Excavations by James Ivey and Judy Miles in 1987 uncovered foundations suggestive of a process of enlargement which incorporated certain parts of the original 1622 structure. The 1651 buttresses were added to support the new, higher raised roof while the 1622 sanctuary walls were removed.

FUTURE RESEARCH AND MANAGEMENT

RESEARCH AND MANAGEMENT DIRECTIONS

THE ARCHEOLOGICAL RECORD

Faced with the task of discussing research direction in the archeology of central New Mexico, one is put in the position of the "kid in a candy store." There is so much to be learned about this area, that selecting a place to begin is perhaps the most difficult choice of all. One can readily point out that any contribution to knowledge of this region is welcome. At the same time, a "butterfly collecting" approach to archeological work in the area is not desirable. Based on the known prehistory of the region, coupled with theoretical perspectives presented elsewhere (Tainter and Gillio 1980), it is possible to outline what seem to be some of the major research questions in the area. The suitability of individual sites for addressing these questions might be taken into account when making management decisions. Since research goals regularly change, however, and since no single person can possibly outline the total range of research questions pertaining to a region, what follows must not be taken as the sole criterion by which to reach management decisions.

1. The question of early occupation of the Estancia Basin remains unanswered. Both the Sandia Complex and Lyons' (1969) Estancia Complex are intriguing candidates for pre-Clovis manifestations. This is a topic of national, indeed hemispheric, concern. John Cole (1980:13), however, has made the point that when early dates are asserted or confirmed, one is inevitably led to ask "So what?" Early dates, by themselves, are devoid of anthropological significance. What early-date proponents have failed to do is attach behavioral or cultural-evolutionary significance to their data. This, coupled with the fact that it is almost impossible to implement a research program to test "earliness," suggests that new areas of research might be profitable. One such area might be the functional analysis of Sandia points. If these prove not to have been stylistic markers of short temporal duration, then the Sandia controversy may be somewhat defused. Similarly, for the Estancia Complex, we need to know what parts of a settlement system the two documented sites represent.

2. Persistent questions remain about the nature of PaleoIndian subsistence. Although these early populations have long been thought to have practiced a focal economy, concentrating on megafauna, that view no longer seems plausible. Irwin-Williams (n.d.) has proposed that decreases in the megafaunal population of western New Mexico led to periodic PaleoIndian withdrawal from the area, and to an occupational hiatus at the PaleoIndian/Archaic interface. If, however, PaleoIndian subsistence relied primarily on the smaller fauna and flora, which is the common pattern among hunters and gatherers, then such population withdrawals during periods of megafaunal depletion would have been unnecessary. Furthermore, if during periods of megafaunal depletion, diagnostic PaleoIndian projectile points were not being used (or were not being used as frequently in the plains-like areas where we tend to look for them), then the archeological record might give the incorrect impression of abandonment. The delineation of PaleoIndian subsistence-settlement systems is clearly a crucial research goal. Linda Cordell (1979:21) has suggested the use of obsidian hydration dating, and identification of diagnostic reduction processes, for locating PaleoIndian remains.

3. The geomorphological dating of early sites in the Estancia Basin needs to be evaluated by independent means. This will no doubt be as formidable a task as trying to date the Sandia Complex. If the early Desert Culture (Archaic) and PaleoIndian remains were indeed temporally equivalent, what do these remains signify? I have argued that they would not reflect distinct socio-ethnic groups, but rather different aspects of a single subsistence-settlement system. If the geomorphological dating is correct, then the notion of a PaleoIndian/Archaic occupational hiatus becomes less convincing.

4. What is the correct chronological placement of the point forms referred to as J or Jay? Were they exclusively Archaic, or were similar points made in the PaleoIndian era as well? Is there any significance to this last possibility, or would this merely reflect independent developments?

5. What is the significance, for Archaic subsist-

ence in the Estancia Basin, of the possible persistence of mammoth in this area until at least ca. 2000 B.C.? If Desert Culture remains can be dated to perhaps 10,000 B.P., and if mammoth persisted so late into the Holocene, then there may have been broad similarities between PaleoIndian and Archaic subsistence in this area.

6. The area displays projectile points resembling northern (Oshara) and southern (Cochise) forms. Does this, as Lang (1977) suggests, reflect movements of population? Are the assumptions required by Lang's interpretation reasonable? What changes in social and economic interaction could create such an appearance in the archeological record?

7. Were late Archaic/early Basketmaker populations in the areas of San Lorenzo Arroyo and the northern Fra Cristobal Mountains largely sedentary? What implications would this have for population growth in the region? What, in general, were the demographic trends through the prehistory of the overview area?

8. The Arroyo Cuervo-West Mesa region to the northwest of the overview area shows evidence of population stress and accommodating adjustments in the areas of subsistence, settlement, and social organization during the late Archaic/early Basketmaker periods. Were similar processes occurring in and near the western part of the overview area? Did such population pressures force expansion of riverine populations (Tiwa and Piro) into upland areas to the east? The distribution of Tiwa and Piro speakers east of the Manzanos, at contact, suggests such a process. If this movement took place at all, did it occur at some other time?

9. What were the subsistence and demographic patterns of the early Puebloan era, leading up to the complex aggregated communities of the late Puebloan period? What factors induced the early Puebloan settlement pattern changes that Marshall and Walt (1984) have discerned in the riverine area?

10. Crucial questions revolve around the biological affiliation and nutritional status of early Puebloan populations. Can the healthy status of late period populations be extended backward in time? Or were earlier populations subject to greater stresses, stresses that were perhaps relieved by the organizational changes of the late period? What were the biological

relationships between early Puebloan Salinas populations and their neighbors, especially those of the northern Tularosa Basin?

11. What is the behavioral significance of mixed Anasazi-Mogollon ceramic assemblages on Puebloan sites? What fluctuations in economic interaction and social affiliation produced these patterns?

12. What is the explanation for the apparently defensive situation of early Pueblo IV sites, in both the riverine and upland area? Is this related to the phenomenon of population aggregation? What other factors, such as the depopulation of the Jornada region, might have been involved in the aggregation phenomenon?

13. What factors underlay the expansion of the social hierarchy at Gran Quivira after 1550? What role did the new status level play in the organization of the society?

14. What are the reasons why Anasazi ceramic and architectural features were not readily imitated in the Gran Quivira area? What factors were inducing Rio Grande populations to change their ceramic and architectural patterns at the same time that Salinas populations were not induced to change?

15. What factors underlay the formation and dissolution of ceramic trading patterns? How did some localities come to a position of primacy in ceramic manufacturing and export? What were the economic effects on local populations when these industries collapsed?

16. What did happen to the population of the northern Tularosa Basin ca. 1350-1400 A.D.? The skeletal remains from Gran Quivira do not support the interpretation that these populations moved into the Salinas Province. What would skeletal populations from other late period sites reveal?

17. What was the total impact of Spanish domination on native social organization, religion, subsistence, labor scheduling, seasonal mobility, trade, technology, and external relations? How did these impacts combine to bring about the collapse of the Salinas Province?

HISTORIC SETTLEMENT IN CENTRAL NEW MEXICO: THE ARCHEOLOGICAL IMPLICATIONS

The Place of Archeology in the Study of Historic Cultures

The archeological study of historically documented cultures has recently become an important focal point for American archeologists and historians. The relationship between archeology and history has been the subject of debate for many years. As archeologists have turned away from studies of the unique and the particular to attempt more scientific observation and interpretation of the material remains of human activities, they have sought independent corroboration for their generalizations. Anthropological archeologists seek to use the techniques of archeological investigation to test assumptions and anthropological theories concerning the relationship of man to his natural, built, and cultural environments. Historical sources have provided archeologists with independent controls and a wide range of cultural models with which to compare their field observations. At the same time, historians have expanded their inquiries from great persons and great movements to include studies of vernacular architecture, common people, and the regional and local development of American culture. Local history, in its many forms, is no longer the province of amateur historians, genealogists, and neighborhood pack rats. Historians have also come to recognize the contribution that archeology can make to history. Material culture has provided historians with a greater understanding of the processes and networks that have characterized American communities at different times and in different places.

Two questions must be answered in outlining the future relationship between archeological and historical disciplines in cultural resources management: (1) How can archeology add to the understanding of cultures that have been documented by historical records; and (2) how can the archeological study of historically documented cultures add to the developing methods and techniques of historical cultural resources management?

Historical archeology, in its simplest definition, is the archeological study of the material remains of places occupied and objects used in the historic period. The beginning of the historic period varies throughout the United States, but is generally reckoned from the time of contact between Native Americans and Europeans. At contact, presumably, documentary histories become available. That archeology is considered a useful technique for the study of historically documented cultures is based on a

number of implicit as well as explicit assumptions concerning recorded history.

Three and occasionally four data sources may be available to studies of historic cultures. They are: documentary materials, oral history sources, archeological remains and, in some instances, contemporary analogues. Perfect congruence among available data sources is seldom obtained. Each source is a different memory of the past - a selection of facts and artifacts from which the past must be reconstructed. Processes of destruction act upon each source, resulting in the preservation of fragments of the whole. But taken together the material remains, documents, and oral traditions tell more than any single source could.

Cultural anthropologists recognize vast differences among prescribed, proscribed, and actual behavior. Records often contain ample documentation of required and forbidden cultural practices, but they do not always reflect how people responded to laws, rules, and cultural forms. Some cultural events and activities never become part of a documentary record. This may be because such a record is culturally prohibited, or because the actions are performed so routinely that they become an unconscious act and are never recorded in detail. Records are not an unbiased view of the past. Official documents record the behavior of the dominant culture. The norm of the record keepers may vary considerably from the variations practiced by subgroups of the culture. On the other hand, travelogues, diaries, and other journals may be records of practices that appeared to the diarists to be curious. These records may tell more about the recorder than the people or practices being described. The variety of documentary materials that may be available to the study of historic cultures might be classified into five main groups. They are: public and organizational records, personal papers and manuscripts, newspapers, photographic collections and maps. It is the task of the diligent researcher to verify sources and to establish the selection processes that may have resulted in the preservation of some written records and the destruction of others. Court house fires, indolent clerks, overprotective spouses, and overzealous housekeepers have been known to have shaped bodies of historical data.

Spurred by the success of such programs as the Foxfire oral history projects, students of

anthropology and history have been quick to turn to oral history to understand the past. Local informants are a valuable source, but oral testimony has to be evaluated with the same rigor as other source materials. Folklore, legend, and social and political hagiography gradually become established facts in most communities. The passages of time and circumstances have an effect on the veracity of the oral historical record. The cultivation of informants is time-consuming. Anthropologists know from a long tradition of interviewing that the first or most willing informants can often be the least knowledgeable. These adventurers may be peripheral members of their own communities, anxious to form friendships, to gossip, and have little to lose by answering the endless questions of a curious outsider.

In the formation of an archeological deposit materials are incorporated into the record by loss, intentional discard, and abandonment. Natural processes act on the physical remains of a culture, causing the deterioration of organic materials, and thus bringing about the selective preservation of more durable fabrics. The content and context of an archeological deposit can be further altered by post-occupational disturbance. Surface collecting, or as it might be called in the case of historic archeological sites, "heirloom hunting," can remove or rearrange important parts of the material culture data base. New elements, such as more recent trash, can cause problems in the interpretation of archeological information.

Information may be lost, too, in the process of recording and analyzing archeological sites. The boundaries of sites, and even the definition of a site, are usually determined by the maximum distribution of surface remains. In most cases this is quite different from the way in which boundaries were determined by the people who built and occupied the sites. When archival and ethnographic sources are available more meaningful site boundaries, land-use patterns, and cultural practices can be drawn.

Studies combining archeological site recording, archival research, and ethnographic interviewing - interdisciplinary studies - are important to satisfy the evaluation processes that are part of the legislative compliance process.

The Interdisciplinary Approach
To Historic Cultural Resources Management

The interdisciplinary approach should be integrated into the earliest planning stage of Federal projects that have the potential to impact historic cultural properties. Table 29 presents an idealized scheme for incorporating the three data sources into planning and development projects. For the purpose of assembling the chart, data collection, analysis, and evaluation procedures were biased toward the collection of land-use information. The three vertical blocks represent research activities that are part of any investigation, namely, data compilation, data analysis, and data evaluation. The levels of study shown on the extreme left side of the chart are project phases commonly used in Federal land-use planning and development.

The research strategy outlined in Table 28 proceeds from a general regional model of settlement and land-use, generated in the overview and assessment stage, to increasingly specific site evaluations performed in the data recovery phases. Each level of study has different goals. The goal of an overview and assessment is to define the range of cultural resources previously recorded in the study area, to assemble regional archeological records, ethnographic, and historical information, and to evaluate the best strategy for study of cultural resources in the project area. From this information the broad patterns of settlement, land-use and land-tenure can be drawn. Preliminary research designs and data collection strategies can then be drafted for use in the reconnaissance phase of study.

Reconnaissance should combine a statistically derived, sample ground survey with a more intensive ethnographic and literature search. The goal of reconnaissance is to collect data that can be used to make reliable prediction of the density, distribution, and variability of resources within the project area. The data collected should serve as a basis for refining the research design and data recording format to be used in the inventory survey stage. By the time that the inventory survey stage begins, the projects' historians and ethnographers should have completed the research necessary to formulate models of land-use and settlement in the study area. On-site inspections with informants should begin during the survey data compilation stage.

The testing phase is similar to the

Table 28

Planning Guide for the Use of Ethnohistorical Sources in Cultural Resources Management

Level of Study

Research Phase:	Regional Overview and Assessments	Reconnaissance	Inventory Survey	Testing	Data Recovery
Data Compilation	Literature search: secondary sources, state archeological records, photo archives.	Sample survey of project area.	Intensive archeological survey of project area.	Limited excavation and controlled surface collection of representative sample of site inventory.	Excavation and/or controlled collection of sites.
	Public records search: patent dates, deeds, historical maps, census information. Community contacts: Local historical societies, amateur archeologists.	Preliminary ethnographic research of project area and adjacent communities. Contact local historians, amateur archeologists, local informants for information on project area and adjacent areas.	Directed questioning of informants. Questionnaire, life history, folk history, history of area. Begin on-site visits with key informants. Literature search: primary sources, i.e., military reports, correspondence, mission records, land grant records.	Optional on-site visits with informants.	On-site and/or site-specific interviews with key informants. Site-specific historical records search: photographs, maps, descriptions. Public records, census information, wills, etc.
Data Analysis	Settlement and land-use patterns: based on secondary sources, public records, historical maps.	Develop settlement and land-use models of project area. Based on regional overview.	Define functional site types.	Establish temporal and cultural range of site inventory.	Archeological dating; functional analysis of associated materials, features, and structures.
	Preliminary research design: region and area specific.	Refine research design.	Construct project specific settlement and land use models.	Reexamine definition of functional site types.	Ethnographic and documentary dates, functional analysis of associated materials, features, and structures.
	Preliminary archeological survey form	Refine survey form.			
	Preliminary questionnaire for informants.	Refine questionnaire.	Detailed historical overview of project area. Compare archeological and ethnohistorical settlement and land-use patterns.	Reexamine archeological and ethnohistorical information.	Compare archeological excavation materials and ethnohistorical sources to determine inconsistencies.
Data Evaluation	Determine data gaps in archeological and historical records.	Determine inconsistencies between archeological and documentary evidence.	Synthesis of archeological and ethnohistorical data.	Determine and evaluate inconsistencies between archeological and ethnohistorical data.	Integrate ethnohistorical and archeological survey and excavation data into project-specific and regional overview.
	Design survey sampling strategy.	Predict site types and distributions.	Determine potential research topics and define goals for ethnohistorical and archeological research.	Determine significance of cultural resources inventory.	Determine and evaluate gaps in ethnohistorical and archeological record.
		Determine zones of direct and indirect project effect.	Recommendations for testing program.	Recommendations for mitigation of project effects; research design; sampling strategy.	Recommendations for regional research strategy.
	On to Reconnaissance	On to Inventory Survey	On to Testing	On to Data Recovery	On to Research Funding Sources

reconnaissance phase in that it is a time for formulating and refining the direction of the study. Testing is often an important step in defining the significance of the resources and in determining the most appropriate means of recording the significance of the resources. The final stage in many cultural resources management projects is data recovery. The goals of this stage are to fully recover the significant information that would otherwise be lost. Site specific research strategies must be developed at this stage.

The debate over the significance of particular historic cultural resources is not likely to end as long as significance is the main issue in determining whether or not Federal funds can be expended to protect or preserve these resources. Historians and archeologists have access to different research materials, and disagree between and among themselves over the level of documentation needed to protect the significant values of cultural resources. Taken together the three sources are complementary. An accurate overview cannot be written by selectively drawing from among many available sources, but only by systematically comparing and contrasting the information obtained from each source. No approach can ensure that "the" significant value or values of a cultural resource will be protected, but the interdisciplinary approach certainly assures that a systematic study has been attempted to determine the scientific, associative and heritage values of the resources.

HISTORICAL ARCHEOLOGY IN CENTRAL NEW MEXICO: SUMMARY OF MAJOR CULTURAL RESOURCES ISSUES

Frances Levine and John P. Wilson

The research involved in the preparation of the bibliography and the summary of the culture history confirmed an initial impression: that the periods of Central New Mexico history for which the most historical documentation exists are the late 16th and 17th centuries to 1680, and the 20th century. Much of the literature pertaining to the Colonial Period has been translated from the Spanish and collated in topical volumes. Copies of many of the Spanish documents are available at the New Mexico Archives and Records Center in Santa Fe, Zimmerman Library at the University of New Mexico and the National Park Service, Salinas National Monument in Mountainair, New Mexico. The 20th century references consist of primary documents

mainly found in newspapers, and in legal, government, and personal records. There are few secondary or summary sources available for the recent historic period. Project-specific overviews and special studies of such topics as homesteading, ranching, railroads, conservation, mining, and Federal land management will have to budget time to summarize the available primary references and to prepare the background documents needed to assess significance and appropriate preservation or mitigation strategies.

The historical documentation for the Mexican and Territorial periods is extensive, but not comprehensive. Travelogues, diaries, and military reconnaissance reports are available for those areas that lay along the Santa Fe and Chihuahua Trails, or areas that were reached by geographical and military surveyors. These reports give a generalized view of Mexican village life just prior to the American conquest, but leave many questions concerning social organization, economics, and subsistence largely unanswered. For the Territorial Period survey maps of Central New Mexico are available. Although they cannot be accepted uncritically, they give some of the most complete information concerning land-use and settlement patterns for areas scheduled for disposal under the Homestead and Settlement Acts. Legal histories of land grants can be found in the files of the Surveyor General and the Court of Private Land Claims. Detailed culture histories, and settlement and land-use studies, of land grants or lands formerly within land grants require archeological and primary historical research to augment the schematic and often biased information presented in the land grant case files. For the Mexican, Territorial, and Statehood periods newspapers can provide important local perspective on the development of towns, regions and particular industries. Stratton (1969), and Grove et al. (1975), provide comprehensive guides to New Mexico historical newspaper collections.

Detailed below are some of the major historic cultural resources issues that appear to be suited to an interdisciplinary (archeological and historical) research approach. This discussion is not intended to be a comprehensive list of the significant research problems in the area, but to highlight some of the more obvious problems that were identified in working with the historical documentation and archeological site files.

The nature of the Spanish entrada was such that

little archeological evidence has been found for this initial contact phase. Rather, diaries and logs kept by the explorers provide the record of contact between the Pueblos and conquerors. Although biased toward assessing the potential for mineral wealth and commercial enterprise, the documents remain the primary sources for reconstructing the contact period landscape of the Southwest. The identity of groups named in the chronicles, the location of settlements, and the routes of the explorers have provided the general picture of settlement and land-use patterns, trade networks, and political affiliations of aboriginal populations.

The literature and archeological site inventory of the Spanish Colonial Period is extensive for the Central New Mexico Overview Area. The Colonial Period marks the beginning of substantial cultural changes among the first phase of Hispanic settlements in the Central New Mexico Overview Area, as in New Mexico as a whole. The precontact cultural sequence and cultural modifications that contact brought to the Piro are not well documented. A recent survey of the Rio Abajo by Marshall and Walt (1984) identified some 26 sites that date to the Protohistoric and Colonial Periods, and are identified as Ancestral Piro, Piro, and Hispanic. The survey concentrated on the riverine and first terrace locations along the Rio Grande, from its confluence with the Rio Puerco to the area south of San Marcial near the Fra Cristobal Mountains. The data collected by this survey will form the basis for future comparison of Pueblo and Hispanic interaction in the Rio Abajo during the Colonial Period, with Pueblo and Hispanic interaction in the Salinas Area, as well as in the Rio Arriba (particularly in the vicinity of Cochiti Reservoir where the greatest number of Hispanic archeological sites on the river have been found).

At the time of contact the Piro villages appear to have been smaller than the villages visited by the Hispanic explorers in the Rio Arriba and Salinas areas. On the basis of the limited Rio Abajo Survey, Marshall (1982) believes that at contact, the Piro population was beginning to aggregate into a lesser number of settlements. This trend continued throughout the Colonial Period, under the direction and influence of Hispanic priests and encomenderos.

Marshall and Walt found much more limited evidence for Colonial Hispanic occupation in the

Rio Abajo. The survey recorded Colonial components at four sites (LA 286, 287, 774, and 2004). The evidence consists of late glaze and Mexican-made ceramics. LA 286 is the only Colonial component that Marshall et al. recorded that is not within the room block of an ancestral Piro or Piro site, although the low cobble and adobe structure is within an extensive complex of Piro sites near San Acacia, New Mexico. This is similar to the 17th and 18th century Colonial sites excavated at Cochiti Reservoir (C. T. Snow 1979). There is considerable variation in the types and architectural form of structures that have been attributed to Spanish Colonial occupants of the Cochiti area. For the most part, however, the material culture of the Colonial Hispanic sites and the Colonial Period pueblo sites is very similar (C. T. Snow 1979:217-226). Rio Arriba Hispanic sites' high percentage of Pueblo-made pottery has led David Snow (1973) to conclude that the Colonial Hispanic residents of New Mexico relied on the Pueblo industries to supply household utensils. Petrographic analysis is a critical element for future studies of historic pottery. Survey beyond the riverine environment, and limited excavation of the Rio Abajo and Colonial sites, are needed to clarify the relationship of Pueblo industries and Hispanic economic and subsistence strategies.

There are many questions about the Hispanic and Pueblo Indian settlement, subsistence, economic, and cultural practices during the Colonial Period. Some of these questions are listed below.

1. The salt lakes of the Estancia Valley and their exploitation. These are not unique in New Mexico, but the Estancia lakes and the single lake south of Zuni are the most widely known. They have surely been visited since prehistoric times and proposals for their use continue in the 20th century (Anonymous 1949). Yet while the formation of the Estancia lakes is well understood by geologists, there has been virtually no attention directed to them by historians or by archeologists. The Estancia Valley, known to the Spanish as the province of Las Salinas, was the scene of vociferous contentions between Church and State during the 1660s, in part over the use of Indians to collect and transport salt (Anonymous 1914; Hackett 1973).

Investigation of this general problem should seek

answers to several questions. One question is which lake or lakes were exploited? Johnson (1902a) implied that a single lake was harvested, and the location of the so-called La Salina Grant (Donnell 1933) might be a partial confirmation of Johnson's claim. Another question is, how was the salt harvested? What archeological remains can be expected at the salt lakes? At present Johnson (1902b) is the sole reference on this point. A third question is, for what purpose(s) was the salt used? Domestic consumption and use by livestock are obvious replies, but may be only partial explanations. Common salt was a necessary element in the patio process, widely used in New Spain for the extraction of silver from its ores. One Anonymous (1914) reference may provide a lead that would help to determine whether salt from the Estancia Valley was being exploited primarily for use in the reduction of silver ore at Parral, in what is now southern Chihuahua. Although the Santa Barbara district there was founded in 1567, new discoveries were made nearby in the 1650s. One may ask whether these new discoveries enhanced the value of salt from far off New Mexico, by providing an expanded market for it and thereby setting the stage for conflict in the 1660s.

Finally, to round out this line of inquiry, one might also ask the reason for failure of the more recent salt-mining ventures. Were these failures for technical or economic reasons, were they failures of management, or did they involve more than a single factor?

2. The identity of the Pueblo Indian inhabitants of the Estancia Valley and their relationship with the Piro Indians of the Rio Grande Valley. This general problem has seen an abundance of writing and little resolution. During the 17th century the Pueblo Indians of the Rio Grande Valley from Sevilleta south to Senecu were called Piros. Whether this name was applied to a linguistic community, to a geographical entity or to some type of a supra-tribal grouping is not of particular importance because the name "Piro" was employed consistently.

Further to the east, however, consistency in the application of names is not the case. The proper referents of the names Jumano and Tompiro remain unclear. There is some question about whether the Pueblos of the Salinas area spoke a single language or more than one. Apart from Abo, it appears that there is a disjunction between the names of pueblos through ca. 1601 and the names

used during the 1620s and later, with additional complications in the late 1670s when "Las Salinas" may have been applied to Tabira (Pueblo Blanco) as well as to a portion or to all of the Estancia Valley. The absence of linguistic materials, other than place names, adds further to the problem of characterizing the Estancia area and its 17th century inhabitants.

To resolve the identity problem, answers to some basic questions are needed. For example, which of the 17th century names appear to have been applied to a linguistic group or groups; which names may have had only a geographical meaning; what ones (other than names for specific pueblos) denoted ethnic or cultural groupings; and which if any might have referred to political combinations of more than one village? The ecclesiastical practice of the name following the congregation (e.g., Isleta, Isleta del Sur) should not be forgotten, although this is probably not a problem in the Salinas area. If the basic matters of how names were used and what changes in usage occurred through time can be resolved, the next generation of questions will almost certainly be more fruitful than would otherwise be the case.

Much more can be done in this problem area than has been attempted to date. Place names have apparently not been looked at from a linguistic standpoint. Leap (1971) implied that Bartlett's (1909) Piro informants probably spoke as much Tiwa as Piro; the vocabulary and the single recorded text (Harrington 1909) should be examined with this in mind. Spanish documents contain occasional references to which Indian languages the priests could speak (New Mexico Franciscans not being notable linguists) and the fathers can usually be traced around in their assignments; these factors should enter into the equation. The sometimes scanty existing evidence, including the archeological surface collections, should be reexamined to try and determine which of the pueblos may actually have been new foundations in historical times, and therefore may have little or no bearing upon the pre-Spanish distribution of Pueblo Indian groups.

The question of what relationships obtained between the Piros of the Rio Grande Valley and the Pueblos of the Salinas area has long fascinated scholars, with almost no resolution on this matter. Part of the difficulty may be in finding a fruitful approach; e.g., how much will a distributional study of potsherds tell us, if

as it appears that Quarai and Abo may almost have been producing ceramics commercially (Warren 1981b)? Can petrographic analysis distinguish ceramic industries particular to the Rio Grande and Salinas areas? Comprehensive archeological surveys using non-destructive procedures need to be made of the relatively few, late prehistoric and historic pueblos of both the Piro and Estancia Valley area, with a goal of distinguishing the time, position, extent, and duration of each component actually represented at a site, insofar as possible from surface indications and controlled test excavations. Too much of the existing information consists of uncontrolled surface collections gathered forty years or more ago, reported on by people who perhaps never visited the location. Surveys beyond the riverine environments and away from the central village sites are needed to determine the full range of Salinas and Piro adaptations to their environments.

At the same time that controlled surveys are run, the extant archival and published records should be searched and compiled with a goal of separating fact from fiction. For example, Bishop Tamaron in 1760 (Adams 1953) referred to traces of a church at the ruins of San Pascual, a (presumably) Piro pueblo for which there are no known references from the 1598-1680 period. Was the bishop mistaken or did he know what he was talking about? Since the Adams translation was made from an abridged text published in Mexico in 1937, the most immediate step with reference to this question would be to obtain a copy of the complete, original Tamaron report.

3. Subsistence in the 17th century. Subsistence-related questions appear to dominate archeological inquiries, and in pre-Revolt New Mexico subsistence does appear to have dominated the thoughts of both Spaniards and Pueblos at times, if we can believe the claims of starvation that were being made about 1600 and again around 1670. There is evidence that the Piros practiced ditch irrigation and that the Senecu mission at least had a vineyard, though otherwise our best information about Piro subsistence is from the 1581-1583 narratives (Hammond and Rey 1966).

With respect to the Salinas area, there are a number of claims by the priests about seemingly chronic shortages of food in that province. Steen (1977) recently summarized the situation and drew some conclusions. The general problem, however, is that we know next to nothing about

the subsistence practices of the pueblos on the eastern flank of the Manzanos and along Chupadera Mesa. Steen may be quite correct in saying that this was a submarginal agricultural area, yet people persisted here into the 1670s and there is even one reference to cotton being grown. We do not know what other crops were raised or in what manner.

This general problem can best be attacked through a combination of documentary research and non-destructive archeological investigations. It may be that the Pueblo Indians had developed some ingenious techniques for growing crops in an unpromising environment. For example, Orr (1935) in a popular article has an intriguing mention of "extensive fields that were cultivated in ancient times" far back up the hillsides from Quarai. Such leads should be pursued and the unexpected should be anticipated. Through excavation it should be possible to more completely determine the changes in Salinas and Pueblo diets after contact with the Spanish, and to determine the effects of the Revolt on Pueblo diet.

As a minor but perennially fascinating question, the origin of "America's oldest apple orchard" at Manzano has never been settled despite the volume of writing about it. Carleton (1855) claims that the orchard dates prior to the Pueblo Revolt. Hawley (1936) concluded that the orchard dated from A.D. 1800 or very close to this, but at this period the area should have been without settled inhabitants. The name Manzano was current by 1778, when Father Valez used it for the mountain range which still bears that name. Assuming that any of the apple trees are still extant, a horticulturalist with strong historical interests should be introduced to this problem. Archeologists and historians probably have no further contribution to make on this question.

4. There are a variety of other problems that relate to the early historical horizon in the Estancia Valley particularly, and which would be more susceptible to solution through historical and archeological research than by either alone. One is the nature of Apache relationships with the Pueblo people. Some references document hostilities and even the destruction of churches, but it would be unusual if the relations were always so. Why have so few Apache sites been identified in Central New Mexico?

There is also the question of the locations, nature, and relationships of non-Indian (Spanish)

ranchos in the Estancia Valley and along the Rio Grande Valley. These small settlements may have posed severe problems for the nearest Indian communities, given the existence of the encomienda system in 17th century New Mexico. Apart from a dwelling at Los Ojuelos, on the west side of the Manzanos, it appears that few non-Indian remains other than missions have yet been identified south of the Albuquerque area. With recognized sites as well as documents, the investigation of such questions as the relocation of the Piros of Sevilleta at the rancho of their encomendero and at Alamillo pueblo for several years, ca. 1660, would undoubtedly be more productive. Within the Rio Abajo, were Colonial Hispanic settlements more often built within the Pueblo communities, contrary to prescribed land-use practices?

Bandelier raises a particularly important point with respect to dating small, adobe structures located along the Rio Grande. His caution is as timely today as when he wrote it in 1892:

I desire to call the attention of future investigators to one point: previous to the insurrection of the Pueblos, Spanish farm-houses, haciendas, and what may be called cattle ranches, existed at various places along the Rio Grande from above Socorro to about nine miles below, where the hacienda of Luis Lopez probably indicated the most southerly Spanish dwelling in New Mexico. The houses of such establishments were like the adobe buildings on isolated ranches of this day, and the mounds formed by them through decay in course of time would be quite similar in size and appearance to those of ancient Indian small-house abodes. The investigator should also bear in mind that in many small-house ruins pottery is rare on the surface: so he is exposed to the double danger of regarding as very ancient what is in fact modern, or of disregarding as modern what really belongs to the most ancient type of aboriginal architecture in the Southwest (Bandelier 1892:246).

There is what might be called the ultimate question with respect to the Salinas pueblos, that of their abandonment. This has been written about for at least one hundred years, often in a popular manner, but the timing and the probable reasons are almost as poorly understood as ever. There is good evidence that Tajiue was still occupied at the time of the Pueblo Revolt. For

the others, answers have been superficial and based upon shallow research. Only two of the six excavations of churches and chapels at Salinas area pueblos were carried out and reported in a professional manner. For the others, we do not even know whether the churches were burned. This latter point has a clear bearing upon the question of whether it was fear, hunger, or something else that prompted the eventual abandonments.

5. Our only records of activity in the Estancia Valley during the century and a half after 1680 are the references to summer patrols in the 1751 - 1754 period, and the records of Governor Marin's expedition in 1759 (Lange et al. 1975), while for the old Piro country there are travelers' narratives for the Camino Real. Were these areas unoccupied, other than by Apaches, until resettlement of the Socorro area after 1800 and at Manzano, New Mexico by 1829? Toulouse (1947) indicated that there was evidence for 18th century reoccupations at Abo and Quarai. If this can be supported by precise chronological assessments, then what were the nature of activities involved with these seemingly undocumented settlements, and are there other examples?

6. Recent mining activity in the Manzanos has been virtually nil, apart from the Scholle district, and the histories of coal and base-metal mining for eastern Socorro county suggest that pre-Territorial mineral prospecting was on a small scale, at best. Geologists, however, are currently interested in Spanish mining, and there are just enough leads to suggest that this general problem should be reexamined for the overview area. The leads include one land grant claimed on the basis of an alleged mine (Bowden 1969), arrastras in at least Priest and Hell canyons (Parker 1947, Reiche 1949), and an apocryphal reference in File and Northrop (NMSBMMR Circular 84, p. 39) to a mine or prospect in the Goodfortune District, worked by a Marguerito Lucero in 1655. Precious-metal mining was something of a consuming interest for Spanish settlers, and early evidences for prospects in mineralized areas might be more extensive than has ever been realized.

For the Mexican and early Territorial periods questions of location, extent, and type of settlements must be answered. The available historical documentation records many of the settlements visited by travelers along the Santa Fe and Chihuahua Trails, but does not clearly

define the social and economic attributes of the settlements. The following types of questions might be asked.

1. Land grant settlements were an important means of expanding the Mexican claim to lands south and east of the late Colonial settlements in the Rio Arriba. The land grant records provide very little information concerning the types of settlements built on grant lands. Controlled archeological surveys are needed to define the range of site types and the functions of settlements established on land grants and former land grants in the Central New Mexico Overview area. How do settlements located on Manzano Mountain land grants differ in settlement pattern, land-use strategies, and/or material culture from the presumably earlier land grant settlements on the Rio Grande? How do the Rio Abajo settlements differ in pattern or in function from the much earlier Rio Arriba communities?

2. Trade networks were greatly expanded during the Mexican and early Territorial periods. Prior to the Mexican War, New Mexico received goods from and shipped goods to American Territories and the northern provinces of Mexico. What industries of Central New Mexico contributed to the trade? How did the material culture of New Mexico change after trade was established with the American territories? Settlements east of the Manzano Mountains did not take part in the trade to the extent that Rio Grande communities did. How did this affect the prosperity and cultural practices of the two areas? What archeological evidence remains to supplement the historical records of trade along the Chihuahua and Santa Fe Trails? What are the archeological attributes of a paraje, a hacienda, a pueblo, and a villa built along the Chihuahua Trail?

3. Apaches and Navajos continued to raid Rio Grande and Manzano Mountain villages throughout the Mexican and earlier Territorial periods; yet, we also know from U.S. military reconnaissance reports that the Jicarilla were frequently seen trading and living among the Manzano Mountain communities. What determined the cycles of raiding and trading among Navajo and Apache groups? What archeological attributes define Apache and Navajo sites, and can use areas for different bands be differentiated on the basis of these attributes?

4. Conflicting land use and land-tenure

strategies between Hispanic and American settlers were apparent from the earliest contact between the two groups. What accommodations - legal, social, and material - were made to allow the blend of Hispanic and American cultural practices that now characterizes New Mexico? What are the archeologically and historically discernible differences in land-use practices that characterize Hispanic and American farming and ranching strategies? Can the historical and archeological study of Hispanic and American land-use strategies be used as a foundation for land management policy today? What are the determinants of cultural land-use practices?

The later Territorial and early Statehood periods were marked by intensifying land-use practices, the growth of population, and the development of industry throughout the Central New Mexico Overview area. Coupled with this was the progressive abandonment of Hispanic community patterns that had been developing from the late Colonial period. These topics are suitable for archeological and historical study.

1. The outstanding general problem is the timing and nature of early 20th century agricultural development in the Estancia Valley. Within the space of a few years old land grants were disallowed, railroads built, lands opened for settlement, and the more arable parts of the valley settled up with homesteaders. Fragments of this story have been published, as with the building of the railroads, but a critical history of 20th century settlement has not been attempted. The resources to support such a study exist and are not difficult to locate.

Within the general problem more specific questions can be framed. The General Land Office had a central role in this settlement. What was the nature of its actions in opening the lands to settlers and under what Acts were claims actually made? To what extent were the homesteads proven up, relinquished or otherwise disposed of? In what manner did the homesteads develop into a smaller number of larger farms, a sequence which the census records suggest may have taken place within relatively few years? Through what accident or design did pinto beans come to be the staple cash crop, here and on the Zuni Plateau in western New Mexico, while contemporary farmers in Roosevelt and Curry counties were dry-cropping grain sorghum (Wooton 1927)? Are there any meaningful comparisons to be made between the ultimately unsuccessful dry-farming of the 20th

century and Pueblo Indian subsistence in the 17th century, which also appears to have failed?

The majority of Estancia Valley homesteaders came from Texas, Oklahoma, Kansas and other Plains states. An architectural survey of Torrance County undertaken by the University of New Mexico, School of Architecture for the New Mexico Historic Preservation Bureau recorded structures built before 1945. The survey was directed by Edith Cherry, who reports (1981: personal communication) that the style of structures built throughout Torrance County is more similar to buildings found in the Plains, particularly Oklahoma, than to structural styles and materials used in the Rio Grande communities. What other aspects of "American" culture did these homesteaders bring with them to New Mexico? What aspects of Hispanic and Pueblo culture did they adopt? Archeological survey and limited excavation would be needed to supplement the records we have to document material culture and cultural practices of the Estancia Valley homestead communities.

2. The process of community disintegration has been studied along the Rio Grande and in the Manzano Mountains. The Spanish-American communities along the eastern flank of the Manzanos have seen one major study, that by Hurt (1941) at Manzano. As it happens, more historical documentation may be available for that community than other, similar ones. The Hurt thesis could provide the baseline for a sociological or socio-economic restudy of that community to determine the nature and pace of culture change, in a manner similar to the El Cerrito studies in San Miguel County. Community disintegration accelerated in the post World War I and World War II period throughout New Mexico. Along the Rio Abajo, some authors (Calkins 1937; Harper et al. 1943) have attributed the breakup of traditional villages to a number of processes including environmental change, the loss of traditional community functions to local and Federal government agencies, and to recasting of regional trade networks (Meinig 1971). How have these processes determined the life histories of Rio Abajo and Manzano Mountain communities? What policies and programs of local and Federal governments continue to erode the traditions of these communities? How can conservation and land-use planning policies be implemented with the least cost to traditional community values? What is the extent of the Federal land management responsibility for preservation of traditional

cultural environments?

3. Another general problem that has attracted almost no attention, but may be quite significant, is the interim between ranching and farming around 1900. This period witnessed lumbering in the Manzano and Gallinas mountains and mining in Socorro county, but concerning these there appears to be almost no published syntheses. Preliminary indications are that both the Manzano and Gallinas units of the present Cibola National Forest may have been extensively logged by the time that they were declared Forest Reserves in November 1906. Some or many of the sawmills were allegedly owned by one person, named McKinley. The socioeconomic impacts of lumbering and mining for the nearby communities, as well as the economics of the lumbering and mining and the long-term consequences for management, are topics that have seen little if any development in New Mexico. A viewpoint for investigation might be that of a major, short-term exploitation with long-term consequences. Archeological study of these industries is limited. Gilbert (1980) appears to have done the only professional archeological recording of the important Carthage Coal Field.

The foregoing list of problems for investigation, drafted in terms of general problems and more specific questions, is meant to be illustrative rather than exhaustive. It has also been the intent to suggest things which could more profitably be studied through a combination of archeological and historical research, than by either in isolation. Land managers and cultural resources manager are left with a tremendous responsibility to identify, evaluate and manage the important historic cultural resources of central New Mexico. This overview is just a beginning.

CONCLUDING REMARKS

The cultural resources of central New Mexico can be viewed in several ways. They can be seen as unique - in both the prehistoric and historic periods they represent the frontier of the more densely settled areas of the state. On the other hand, they can be seen as representative of common patterns of adaptation to the Southwest environment. The prehistoric period shows similarities to the general processes of puebloan cultural evolution, while, except for the 1680-1800 hiatus, the historic era reflects the more general settlement of the frontier. At the

same time, throughout the occupation of the region, there is a pattern of contrast between Mogollon and Anasazi, Pueblo and nomad, mountains and plains, Indian and Hispano and Anglo. The cultural resources of this region can thus inform us about many topics - frontier settlement, cultural interaction, and the broader processes

of New Mexico history. Whatever our perspective, one thing is certain: the cultural resources of central New Mexico are important. They merit our best efforts at management and protection, and they deserve more scholarly attention than they have recently received.

APPENDIX A

REGISTERED CULTURAL PROPERTIES IN THE OVERVIEW AREA

The following properties have been listed on the New Mexico State Register of Cultural Properties. In addition, those properties presented in bold type are listed on the National Register of Historic Places. The notation "(NHL)" means that the property is also a National Historic Landmark.

TORRANCE COUNTY

Estancia

Berkshire Hotel - Estancia; 5th Street

Moriarity

Eclipse Windmill, Moriarity - Moriarity; 2 mi. West of Moriarty, off State Highway 222

Mountainair

Abo State Monument (San Gregorio de Abo Mission) (NHL) - Scholle; 12 mi. West of Mountainair, North side of US 60

Gran Quivira National Monument and Collections - Mountainair vicinity; 1 mi. East of Gran Quivira on NM 10

Mountainair Railroad Station (AT&SF) - Mountainair; Railroad Avenue and tracks

Pueblo Colorado - Mountainair vicinity; Forest Road 458, Cibola National Forest

Rancho Bonito - Mountainair vicinity; Gran Quivira Road

Shaffer Hotel - Mountainair; Broadway

Tabira (Pueblo Blanco) - Claunch vicinity; Forest Road 533, Cibola National Forest

Punta de Agua

Quarai State Monument (La Purisima Concepcion de) (NHL) - Punta de Agua vicinity; 1 mi. South of Punta de Agua

SOCORRO COUNTY

Bingham

Trinity Site (NHL) - Bingham vicinity; White Sands Missile Range

Kelly

Little Mission Church of St. John the Baptist - Kelly

Magdalena

Atchison, Topeka & Santa Fe Railway Depot - Magdalena; North of US 60

Clemens Ranch House - Magdalena vicinity; Kelly Mining District

Gallinas Springs Ruin - Magdalena vicinity; 15 mi. Northwest of Magdalena in Cibola National Forest

Ilfield, (Charles) Company Warehouse - Magdalena; North of US 60

Kelly Mine - Magdalena vicinity; 3 mi. Southeast of Magdalena off Highway 60

Magdalena Bank Building - Magdalena; US 60

Magdalena Historic District - Magdalena; along US 60

Magdalena Mercantile Building - Magdalena; US 60

Magdalena Stock Driveway - Magdalena; see Catron County

Mountainair

Gran Quivira National Monument and Collections - Mountainair vicinity; 1 mi. East of Gran Quivira on NM 10

San Antonio

Hilton Bar at the Owl Bar - San Antonio; State Road 380

Mockingbird Gap Archeological Site - San Antonio vicinity; 10 mi. East of San Antonio

Montoya, (Eutimio) House - San Antonio: from the Owl Cafe, 1 block East, then a block and a half South

Sandal Cave - Nogal Canyon: South of San Antonio

Socorro

Abeyta & Montoya, (Antonio) House - Socorro: West side of Park Avenue between McCutcheon & Spring (SOCORRO MULTIPLE RESOURCE NOMINATION)

Abeyta Block - Socorro: 119 Manzanares (Masonic Lodge) 101 Plaza (Drugstore) 104 Plaza (Barber Shop) 105 Plaza (Baldwin Agency Insurer) (SOCORRO MULTIPLE RESOURCE NOMINATION)

212-214 Abeytia Avenue, East - Socorro: location same as site name (SOCORRO Avenue, E. 706 Manzanares Avenue, E Abeytia Avenue, East - Socorro: location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

Baca (A.B.) House - Socorro: 210 School of Mines (SOCORRO MULTIPLE RESOURCE NOMINATION)

Baca (Juan Jose) House - Socorro: Abeytia Street & Northeast corner of Socorro Plaza, just West of Highway 85 (SOCORRO MULTIPLE RESOURCE NOMINATION)

Bourguignon House - Socorro: 307 Mt. Carmel Road (SOCORRO MULTIPLE RESOURCE NOMINATION)

Brown House - Socorro: 205 Abeytia Avenue, Northeast (SOCORRO MULTIPLE RESOURCE NOMINATION)

Bursum House - Socorro: 326 Church Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

300 California Street, South - Socorro: location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

400 California Street, South - Socorro: location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

407 California Street, North - Socorro: location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

Capitol, The - Socorro: 104 Plaza (SOCORRO MULTIPLE RESOURCE NOMINATION)

Captain Cooney House - Socorro: 309 McCutcheon Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Chambon House - Socorro: 324 Church Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Chihuahua Historic District - Socorro (SOCORRO MULTIPLE RESOURCE NOMINATION)

Church of the Epiphany - Socorro: 219 Fisher Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Church-McCutcheon Historic District - Socorro: Church & McCutcheon Streets (SOCORRO MULTIPLE RESOURCE NOMINATION)

Church of San Miguel - Socorro: Otero Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

Cortesy House - Socorro: 327 McCutcheon Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Crabtree Building - Socorro vicinity: 211 Fisher Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Crown Mill - Socorro vicinity: East of the intersection of Highway 85 and the Magdalena Branch of the Santa Fe Railroad (SOCORRO MULTIPLE RESOURCE NOMINATION)

303 Eaton Avenue - Socorro: location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

East Abeytia Avenue Historic District - Socorro: East Abeytia Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Eaton House - Socorro: 403 Eaton Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Eaton/Darr House - Socorro: 313 McCutcheon Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

El Torreon - Socorro: 305-317 Park Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

217 Fisher Avenue - Socorro: location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

249 Fisher Avenue - Socorro: location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

Fitch Building - Socorro: 207 Fisher Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Fitch House - Socorro: 311 McCutcheon Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Fort Craig - Socorro vicinity: 37 mi. South of

Socorro on US 85

Fortune Property - Socorro; 110 Park corner of Park Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

Garcia, (Juan Nepomuceno) House - Socorro; Northeast corner of old Plaza, on South side of Abeytia Street, long axis faces West (SOCORRO MULTIPLE RESOURCE NOMINATION)

Garcia, (Juan Nepomuceno) Opera House - Socorro; Terry Avenue & California Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

304 Garfield Street - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

211 Grant Avenue - Socorro; location same as site name

Herrick House - Socorro; 505 Center Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

Hilton House - Socorro; 601 Park Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

Illinois Brewery - Socorro; Neal Avenue & 6th Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

Kittrel Park-Manzanaras Avenue - Socorro; Manzanaras Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Knights of Pithias Hall - Socorro; 106-106 1/2 Manzanaras Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Loewenstein/Torres House - Socorro; 403 Highway 85 (SOCORRO MULTIPLE RESOURCE NOMINATION)

101 Manzanaras Avenue East - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

102 Manzanaras Avenue East - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

110 Manzanaras Avenue East - Socorro; location same as site name

315 McCutcheon Avenue - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

605 Nicholas Avenue - Socorro; location same as

site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

609 Nicholas Avenue - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

613 Nicholas Avenue - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

110 North Sixth Street - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

Park Hotel - Socorro; off Garfield Street between Garfield Street and Hisher Avenue, West of Kittrel Park (SOCORRO MULTIPLE RESOURCE NOMINATION)

301-303 Park Street - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

405 Park Street - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

Price/Loewenstein Mercantile - Socorro; 107 Manzanaras Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

San Miguel Church Historic District - Socorro; area around the church (SOCORRO MULTIPLE RESOURCE NOMINATION)

202 San Miguel Street - Socorro; location same as site name

202 San Miguel Street - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

Sedillo, (Anastacio) House - Socorro; 144 West Baca Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

Sedillo, (Jacobo) House - Socorro; 144 West Baca Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

201 Sixth Street - Socorro; location same as site name (SOCORRO MULTIPLE RESOURCE NOMINATION)

Socorro Multiple Resource District - Socorro; the incorporation limits of the City of Socorro

Socorro Plaza (Kittrel Plaza) - Socorro; center of the Plaza area

Stapleton Brothers Mercantile - Socorro; 109-111 Plaza (SOCORRO MULTIPLE RESOURCE NOMINATION)

Stapleton, (Edward S. Sr.) House - Socorro; 313 Mt. Carmel Road (SOCORRO MULTIPLE RESOURCE NOMINATION)

Stapleton (Vivian) House - Socorro; 312 Mt. Carmel Road (SOCORRO MULTIPLE RESOURCE NOMINATION)

Torres Block - Socorro; 101-107 Manzanares Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

Torres, (A.A.) House - Socorro; 408 Highway 85, South (SOCORRO MULTIPLE RESOURCE NOMINATION)

Val Verde Hotel - Socorro; 203 Manzanares Avenue (SOCORRO MULTIPLE RESOURCE NOMINATION)

White Row - Socorro; 300-306 Center Street (SOCORRO MULTIPLE RESOURCE NOMINATION)

Zimmerly (Delfine) House - Socorro; 205 Mt. Carmel Road (SOCORRO MULTIPLE RESOURCE NOMINATION)

Winston

Ojo Caliente Military Post - Winston vicinity; approximately 12 miles North of Winston via State Highway 52.

APPENDIX B: HISTORICAL PHOTOS

The additional Figures in this Appendix are reproduced from photographs in the collections of the Museum of New Mexico. They appear by permission and may not be further reproduced without the consent of the Museum of New Mexico.



Figure 9. Torreón at Manzano, about 1900. Photo (number 37438) courtesy of Museum of New Mexico.



Figure 10. Upper camp at Carthage, New Mexico as viewed from the west, circa 1884. Photo. by J.R. Riddle, (number 76081) courtesy of Museum of New Mexico.



Figure 11. Homestead life in the Estancia Valley. Photo courtesy of Museum of New Mexico.



Figure 12. Socorro, as viewed from the east circa 1884. Photo by J.R. Riddle in the Socorro County Historical Society collection (Museum of New Mexico photo number 68024).



Figure 13. The Fourth of July at Socorro, New Mexico circa 1883. Photo by G.M. Shaw (Museum of New Mexico number 14806). Courtesy of Museum of New Mexico.



Figure 14. View adjacent to Figure 13. Photo (number 14805) courtesy of Museum of New Mexico.

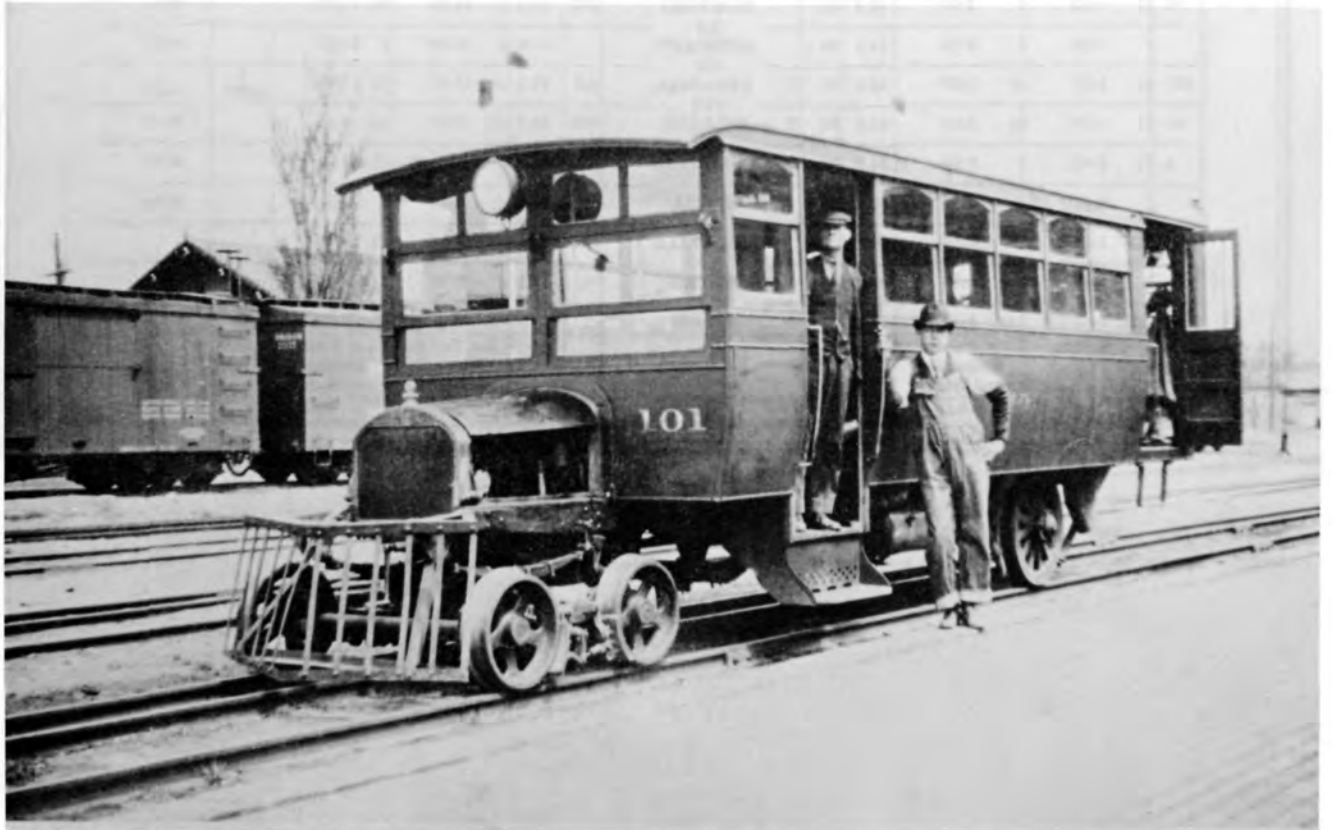


Figure 15. Motorcar used for passenger and mail service on New Mexico Central Railroad. Photo by George Law circa 1921 - 1926. Photo (number 45178) courtesy of Museum of New Mexico.

BETWEEN SANTA FE AND TORRANCE

SOUTH BOUND trains have RIGHT of track over north bound trains of the same or inferior class.

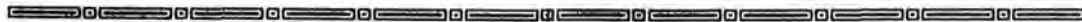
Capacity of Sidings	SOUTH BOUND				TIME TABLE No. 6 Tak's Effect 12:01 A.M. December 3, 1923		NORTH BOUND				Water, Coal Wye, etc.	Altitude
	Second Class	First Class	Distance From Santa Fe	Station Numbers			First Class	Second Class				
	No. 72	No. 2			No. 1	No. 71						
	Mixed	Passenger	Passenger	Mixed								
Lv. Tuesday Thursday and Saturday	Lv. Monday Wednesday and Friday	Ar. Tuesday Thursday and Saturday	Ar. Monday Wednesday and Friday	Ar. Tuesday Thursday and Saturday	Ar. Monday Wednesday and Friday							
	Lv. 9:35 AM	Lv. 10:45 AM	0	0	D	SANTA FE	Go	115.7	Ar. 1:35 PM	Ar. 3:45 PM	CWT	7013
20	9:37	10:50	1.1	1		1.1 STOCK YARDS	Z	114.6	1:27	3:37		
						0.5 CRANDALL STAT'N U. S. IND. SCHOOL		114.1	f 1:25	f 3:35		
14	f 9:50	f 11:00	5.5	5		3.9 DONACIANA		110.2	f 1:15	f 3:25		6616
10	f 10:20	f 11:25	16.0	16		10.5 VEGA BLANCA		99.7	f 12:45	f 2:50		6355
75	10:45	11:40	21.8	22	D	5.5 KENNEDY	KY	93.9	12:20	2:25		6008
21	f 11:05	f 11:59	27.9	28		6.1 CLARK	CR	87.8	f 12:01 PM	f 2:00		6073
30	f 11:45	f 12:25 PM	33.4	33		5.5 WILLIAMS SPUR		82.3	f 11:45	f 1:35	W	
56	12:10 PM 12:35	12:45 1:05	40.8	41		7.4 STANLEY	BA	74.9	11:25	1:10 12:45		6317
6	f 12:50	f 1:20	44.9	45		4.1 OTTO		70.8	f 11:10	f 12:30		6204
48	1:15	1:40	52.4	52		7.5 MORIARTY	MY	63.3	10:50	12:10 PM		6204
18	f 1:40	f 2:00	60.6	61		8.2 McINTOSH	MC	55.1	f 10:25	f 11:35		6135
	f 1:50	f 2:10	64.1	64		3.5 ANTELOPE		51.6	f 10:15	f 11:25		6121
221	2:40	2:35	68.5	68	D	4.4 ESTANCIA	AN	47.2	10:05	11:10	3 CWT	6003
40	3:10	3:05	80.0	80	D	11.5 WILLARD	WD	35.7	9:25	9:45		6086
6	f 3:45	f 3:35	91.7	92		11.7 PROGRESSO	PG	24.0	f 8:50	f 9:05		6167
	4:05	3:55	99.2	99		7.5 BIANCA		16.5	f 8:30	f 8:45		6244
17	f 4:30	f 4:10	104.7	105		5.5 CEDARVALE	RO	11.0	8:15	f 8:30		
	4:40	4:20	108.6	109		3.9 CAMALEON		7.1	f 8:05	f 8:20		
45	Ar. 5:10 PM	Ar. 4:45 PM	115.7	116	D	7.1 TORRANCE	X	0	Lv. 7:45 AM	Lv. 8:00 AM	CWY	6430
	Ar. Tuesday Thursday and Saturday	Ar. Monday Wednesday and Friday							Lv. Tuesday Thursday and Saturday	Lv. Monday Wednesday and Friday		
	7:25	6:00						115.7	5:50	7:45		

Figure 16. New Mexico Central Railway Company time table number 6 for Monday, December 3, 1923. Photo by Arthur Taylor, courtesy of Museum of New Mexico (number 89570).

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Abbreviations have been used in this bibliography for names of several of the most commonly cited organizations which produce or hold reports or other kinds of studies within the overview area.

- ASU - Arizona State University
- BLM - Bureau of Land Management
- GPO - U.S. Government Printing Office
- HNAI - Handbook of North American Indians
- HSR - Human Systems Research
- LA - Laboratory of Anthropology, Museum of New Mexico, Santa Fe
- MNM - Museum of New Mexico History Library
- NPS - National Park Service
- NPS/PUB. - National Park Service Publications in Archeology
- NMC/Station - New Mexico College of Agriculture and Mechanical Arts. Agricultural Experiment Station
- NMHR - New Mexico Historical Review
- NMM - New Mexico Magazine
- NM/Mines - New Mexico State Bureau of Mines and Mineral Resources
- NM/Plan - New Mexico State Planning Office
- NMSU - New Mexico State University
- NMSU/Station - New Mexico State University, Agricultural Experiment Station
- OCA - Office of Contract Archeology, University of New Mexico, Albuquerque
- SANM - Spanish Archives of New Mexico (citation used in the text).
- SAR - School of American Research, Santa Fe
- SNM - Salinas National Monument
- UNM - University of New Mexico
- USDA - U.S. Department of Agriculture
- USFS - USDA Forest Service, Southwestern Region



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- | <u>Number</u> | <u>Date</u> | <u>Reel</u> | <u>Frame</u> | <u>Description/Notes</u> |
|---------------|-------------|-------------|--------------|--|
| 214 | 1819 | 22SG | | Sevilleta Land Grant:
Surveyor General Case 95 |
| 218 | 1825 | 2 | 112 | Petition:
Antonio Chaves,
Arroyo de San |
| Lorenzo. | | | | |
| 382 | 1818 | 23SG | | Town of Socorro
Surveyor General
Case 107 |
| 869 | 1767 | 5 | 137 | Belen vs. Sabinal:
encroachment on
pastures |
| 1013 | 1829 | 5 | 1077 | Petition: Commu-
nity Land Grant
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| 1217 | 1846 | 6 | 719 | Pedro Armendaris:
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1104	1815	6 39	Circular seeking settlers to San Pascual, Socorro, and Pueblo of Manzano
1155	1800	6 379	Plans to resettle Alamillo and other places below Socorro
1171	1800	6 503	Settlement of Socorro
1194	1800	6 627	Settlement of Socorro, Alamillo and Sevilleta
1199	1800	6 636	Settlement of Socorro, Senecu, Sevilleta, and Alamillo
1266	1800	6 998	Progress of set- tlement at Alamillo and Sevilleta

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Number	Reel	Title of Grant
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12	13	Agua Negra
21	15	Town of Tajique
22	15	Town of Torreon
23	15	Town of Manzano
26	16	Jornada del Muerto
29	12	Casa Colorado
33	16	Pedro Armendaris-Valverde
34	16	Pedro Armendaris-Fray Cristobal
35	16	Bosque del Apache
51	18	Nerio Antonio Montoya
70	20	Estancia
79	21	Arroyo de San Loranzo
95	22	Nuestra Senora de los Dolores de Sevilleta
126	24	Bartolome Baca
154	28	Antonio Sandoval
165	49	Nuestra Senora de Guadalupe Mine
248	30	Lo de Padilla

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