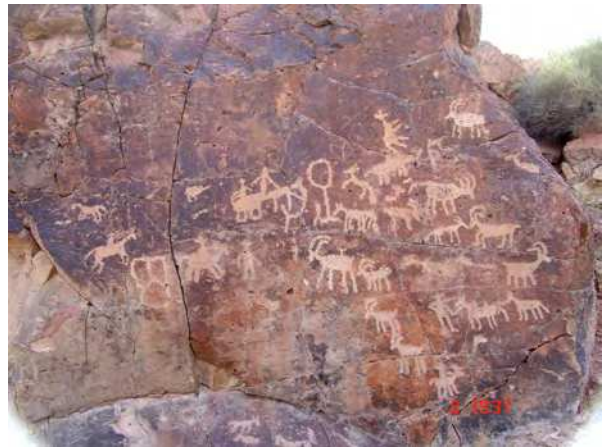




American Indians and the Old Spanish Trail

Item Type	Report
Authors	Stoffle, Richard, W.; Van Vlack, Kathleen; Toupal, Rebecca; O'Meara, Sean; Medwied-Savage, Jessica; Dobyys, Henry; Arnold, Richard
Publisher	Bureau of Applied Research in Anthropology, University of Arizona
Download date	18/09/2019 19:03:10
Link to Item	http://hdl.handle.net/10150/270965

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December 19, 2008

American Indians and the Old Spanish Trail

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**Final Report
December 19, 2008**

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ACKNOWLEDGMENTS

We would like to thank the following federal employees who have facilitated this study: David Ruppert, Assistant Director, Office of Indian Affairs and American Culture, National Park Service, Denver, Colorado, who serves as the Contract Officer Representatives for the project; Aaron Mahr Yáñez, historian (former) and Sharon Brown, planner (current)- the points of contact for the NPS – Trails System; W. Otis Halfmoon, Management Assistant National Trails System - Santa Fe, NM; point of contact between the National Park Service and the American Indian tribes; and Sarah Schlanger, Associate State Archaeologist, who serves as the El Camino Real and Old Spanish NHT Team Leader, New Mexico Bureau of Land Management.

Thanks to Kathleen Sprowl, former Heritage Resources Program Humboldt-Toiyabe National Forest, Spring Mountains National Recreation Area, U.S. Forest Service, who guided the study team to sites she had formerly managed Spring Mountains National Recreation Area. Mrs. Sprowl is currently an archaeologist for the Desert National Wildlife Refuge, U.S. Fish and Wildlife Service, Las Vegas, NV. Steve Daron, National Park Service Archaeologist, Lake Mead National Recreation Area, provided information regarding the Salt Cave, which has just reemerged from the waters of Lake Mead.

We would like to thank the following private individuals who have helped facilitate this study. Don Hendrix used his extensive knowledge of archaeological and rock art sites in southern Nevada and southeastern California to suggest places that the team might consider visiting. From this large list of places, a few were chosen which were within the time and financial limits of the projects. Once places were chosen, Don made contact with private property owners so that Indian representatives could visit normally access-restricted sites. Don also participated in the study by guiding the study team to isolated places. Don continues to contribute articles and archival insights to the study effort. Bruce Holloway went with the study team to the Stuart Ranch and the Lake Mead Salt Cave area and kindly shared his understanding of these sites. Both Don and Bruce are members of Archaeo-Nevada Society [<http://www.archaeonevada.org/>] and the Nevada Archaeological Association [<http://www.nvarch.org/>]. Mrs. Joan Stuart gave the study team permission to visit her ranch with the impressive rock pecking of Euroamericans located in Meadow Valley. Hal Steiner tried to gain access for the study team to the Resting Springs ranch, but construction prevented a visit at this time.

We want to express our sincerest gratitude to Gloria Bullets-Benson, of the BLM Arizona Strip field office and Craig Harmon of the BLM Richfield Field Office, for supporting and assisting us throughout the Utah portion of the study. We would also like to thank Warren Hurley for allowing us access to the Animas-La Plata Project Zone and for guiding us to Ridges Basin. Our sincere thanks goes to Lynn Brittner, Director of the Southern Ute museum for helping us contact Southern Ute elders. We would also like to thank Bandon Oberly of the Southern Ute Museum for his guidance and assistance in the field.

We would like to thank the following tribal government and tribal membership representatives who have supported and helped facilitate this study.

Chemehuevi Indian Tribe

Charles Wood, Chairman
Shirley Smith, Vice-Chairwoman
Tito Smith
David Chavez

Colorado River Indian Tribe

Daniel Eddy, Jr., Chairman
Betty Cornelius

Las Vegas Paiute Indian Tribe

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Pahrump Paiute Indian Tribe

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Marilyn Jake
Ferman Grayman
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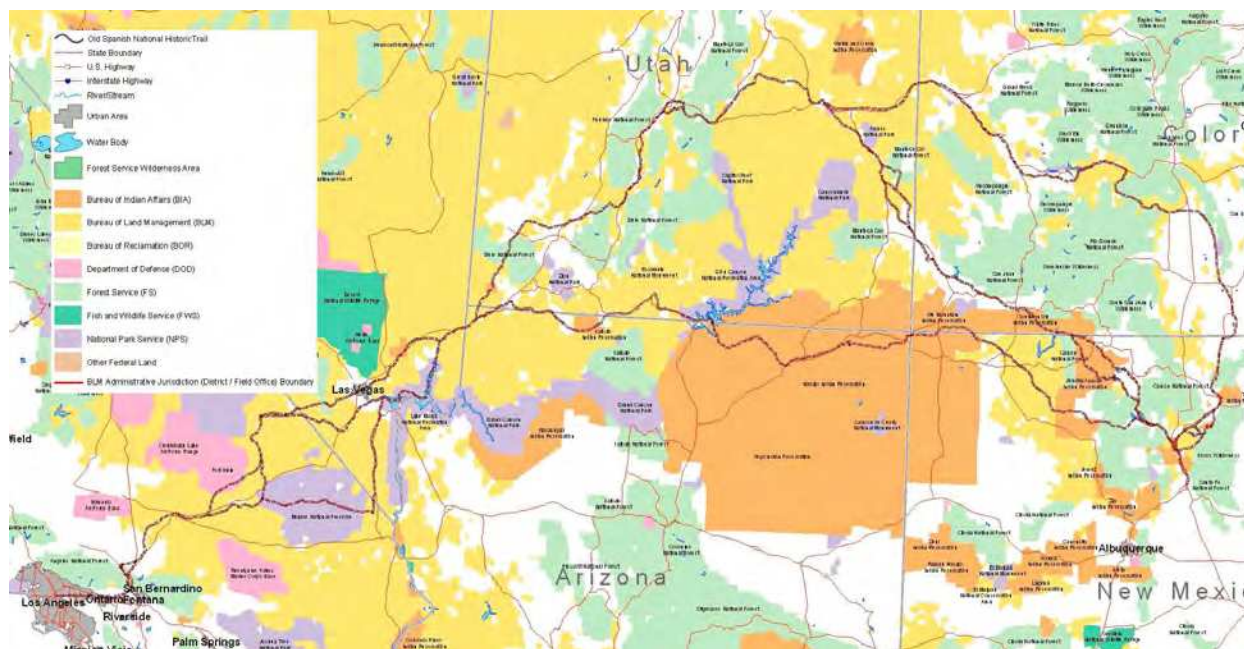
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Sage Remington
Anthony Birch
Alden Naranjo
Arlene Miliche
Annie Bettini

This extensive list of study supporters serves to illustrate how complex it is to study a series of locations along the Old Spanish Trail, which are generally not accessible to the public and not well documented. Their interest in the study bodes well for future federal agency plans to have the Old Spanish Trail better explained and presented to the public.

CHAPTER ONE INTRODUCTION

The purpose of this study is to provide an ethnohistoric and ethnographic assessment of selected American Indian communities along the OST. Text from the initial study design is provided in this and the next three sections of this chapter. It is important to understand the two levels at which this project is being and will be discussed. There is a larger effort designed to provide data which potentially can be used in the management the Old Spanish National Historic Trail, which was placed in National Trails System by an act of Congress in 2002. The current study, however, is limited in scope to a few American Indian tribes who lived along the trail when it was being used for pack-trains between Santa Fe, New Mexico and Los Angeles, California.



Map 1.1 The Old Spanish Trail

Findings from this study will be used by various federal agencies to manage cultural and natural resources in an effective and culturally informed manner. Federal agencies engaged in planning actions often require that historic, ethnohistoric and/or ethnographic analysis be conducted. These studies are conducted to provide a context within which agencies can identify and assess important resources within the study area. The key to these assessments is determining the social and cultural values placed on specific sites or resources within the study area by members of communities that have an affiliation with the project area. The results of this study will be used for the following purposes:

1. To craft management policies or actions that serve to preserve or protect important resources and provide accurate interpretation of these resources to the general public.
2. To identify and evaluate sensitive issues related to the Old Spanish Trail. An assessment of these community based issues will inform trail planners and help in the development and implementation of culturally appropriate resource management strategies.
3. To identify and evaluate community requests for access to culturally significant places or resources (both natural and cultural), and to identify resources that require special management treatment and assess potential impacts on these resources in the face of proposed cooperating agency actions.
4. To identify places on or near the trail that may meet eligibility requirements to be listed with the National Register of Historic Places as traditional cultural properties.

1.1 Old Spanish Trail Plan

The Bureau of Land Management and the National Park Service are developing a comprehensive management plan and environmental impact statement (EIS) for the Old Spanish National Historic Trail, in accordance with the National Trails System Act (P.L. 90-543, October 2, 1968, as amended). The Old Spanish National Historic Trail was added to the National Trails System Act by Public Law 107-325 on December 4, 2002. The Secretary of Interior designated the Bureau of Land Management and the National Park Service as joint administering agencies for the trail in 2003.

The purpose of the comprehensive management plan will be to establish the administrative objectives, policies, processes, and management actions needed to fulfill the preservation and public use goals of the Old Spanish National Historic Trail. The plan will be comprehensive in nature, and will address and resolve issues along the Old Spanish National Historic Trail that are identified through agency and interagency discussions, public scoping efforts, and through studies such as the one described here.

1.2 Background to the Old Spanish Trail Comprehensive Plan

The following is a brief description of the overall interest of these federal agencies in the Old Spanish Trail (OST). This background description properly focuses the reader on the big picture; however, the American Indian study discussed here is much smaller in scope being focused on a few American Indian tribes and only one variant of the OST.

The Old Spanish National Historic Trail commemorates the overland trade route between the far northern Mexican provinces of New Mexico and Alta California. It includes over 2,700 miles of trail alignments through New Mexico, Colorado, Arizona, Utah, Nevada, and California, connecting Santa Fe with Los Angeles. Between 1829 and 1848, the OST was the primary land route between the two provincial outposts of Santa Fe and Los Angeles. During these years, it was used extensively by Mexican and American traders who traded New Mexico woolen goods

for California-bred horses and mules. The establishment of the OST enhanced Santa Fe's position as the hub of an overland continental trade network that linked American and Mexican markets through the Santa Fe Trail (western Missouri to Santa Fe), El Camino Real de Tierra Adentro (Central Mexico to Santa Fe) and the OST (Santa Fe to southern California).

The trail was used by members of long-lived Hispanic communities in northern New Mexico, southern Colorado, and southern California, and by entrepreneurs drawn to the interior of the West from Mexico and the eastern United States. The lands it crossed were occupied by small settlements of primarily Hispanic and Native American origin, and used for sustaining territories by a number of Native American tribes for many centuries. Hispanic settlements at the eastern and western ends of the trail were established from the 1600s through the 1800s. Anglo populations began to enter the country in significant numbers only shortly before the trail was blazed. The trail corridor crosses lands of interest to rural populations, Native American sovereign nations, and communities and municipalities ranging in size from small hamlets to the metropolitan areas of greater Los Angeles, California, and Las Vegas, Nevada. Some of these communities hold ancestral affiliation to the lands crossed by the trail, some are connected to the trail through the presence of descendant populations (populations descended from trail users of the early 19th century, as well as populations descended from communities in place during the period of trail significance), and some are associated with the trail through the historical development of transportation networks only tangentially linked to the OST commercial enterprise of the early 19th century. The economic and historic interests of each of these populations must be assessed and evaluated independently.

The trail trade had a significant impact on the American Indian tribes along the trail. Indians participated in the trade in a variety of ways. Some tribes on the western end of the trail were actively involved in the horse and mule trade, other tribes along the trail participated in the trail trade through the bartering of captives and other commodities. Nearly fifty tribal entities have some association to the trail.

California emigration and colonization from New Mexico by Hispanic and Anglo settlers was also a notable activity that occurred on the trail. Many early settlers in California came over the OST. One community, Agua Mansa, near Riverside, was settled in the 1830s entirely by emigrants from New Mexico who had traveled over the OST.

After the U.S. conquest of the American Southwest in 1848, other routes to California increased in importance and the OST faded in significance and use. Portions of it, particularly along its western half were used by Mormon travelers heading to southern California, and military exploratory expeditions were known to follow portions of its eastern half to reach the Great Basin country.

1.3 The American Indian Study

The overall objective of the American Indian study is the preparation of a written report focusing on the ethnohistory and contemporary perspectives of selected communities affected by the OST. The project can be divided into two separate but related parts: (1) a brief history of each community under study and its historic relationship to OST, and (2) a description of

contemporary community views of the trail. Of special interest will be any contemporary knowledge related to the role played by the trail (and/or events related to the trail's history and use) that affected the history and perspective of each community. Also of interest will be any places or resources along the trail that have significant cultural meaning to the subject communities. These are often referred to as "ethnographic resources."

Specifically, the objectives of the American Indian study are to provide:

- 1) A historic or ethnohistoric profile of the communities selected for study. These profiles will focus on those elements of history that provide a description of the relationship between the communities and the trail.
- 2) An analysis of each community's oral history and contemporary ties to the Old Spanish Trail. Information on contemporary perspectives can be obtained through interviews with selected community leaders or by other means deemed appropriate by the principal investigator.
- 3) An identification of places of significant ethnographic importance linked to the trail and still considered significant by the selected communities. Emphasis should be placed on properties that have the potential to be significant enough to warrant additional work for listing on the National Register of Historic Places. Places of significant ethnographic importance are referred to as "Traditional Cultural Properties (TCPs)."
- 4) The period of significance for this ethnohistoric and ethnographic assessment is the period between 1829 and 1849. Information related to the Old Spanish before and after this period are important and should be reported to provide appropriate historic and cultural context. However, the major focus of the scope of work is the period between 1829 and 1849.

The federal agencies recognize that given the sensitivity of some information on some places and resources, especially those associated with American Indian traditional practices, the precise locations of resource use(s) may not be possible, or desirable, to record. If geographic location is of such a sensitive nature that it can not be indicated in any manner, an attempt should be made to provide a description of the sacred nature of resource use such that informed NPS planning and management decisions can be developed.

1.4 Purpose of this Report

This report describes American Indian responses to various activities along the OST during its pack-train period, which was roughly from 1829 to 1849. The Indian responses are diachronic beginning with the first contacts by Indian people residing on and using traditional Indian trails which were to be used for pack-trains to and from California and culminating decades later when the full impacts of pack-train use had been absorbed and responded to by these proximal Indian peoples. While there were contacts between Indian people and Euro-Americans before 1829, commercial traffic along the OST initiated unprecedented and sustained American Indian natural resource and social impacts. By 1849, the OST was a well traveled trail

supporting thousands of animals and hundreds of travelers annually. During these few decades the springs, sacred sites, hunting areas, pilgrimage places, gathering areas, gardens, and commercial relationships of the Colorado, Utah, Nevada and California Indian people were encroached on, trampled, destroyed, and violated as never before. Pack train after pack train escalated these impacts leaving insufficient time for the human and natural environments to recover at places along the trail. By the beginning of the California Gold Rush and the consequential arrival of thousands of new travelers, the critical Indian places extant before the beginning of traffic on the OST had been lost to non-Indians.

Indian people involved in this study further want this report to stipulate that the trails and places along them which were to be used by others to form what is being termed here the OST, were traditional Indian trails and places; some established thousands of years ago, others by the act of Creation. Traditional Indian trails were used for many purposes, including trade with the Chumash and other Indian peoples in California. Traditionally Indian trails did move traders and goods for long distances, and as such portended commerce functions which would be conducted by the non-Indian traders on the new OST. Some traditional trails were not used for trade but instead were for pilgrimages to places where many types of individual, group, and interethnic ceremonies could be conducted. Similarly, some places along this system of trails were public, such as hot springs and agricultural villages that would normally and appropriately be visited by strangers interested in trade and short rests during travel. Other places in this system of trails were ceremonial in nature only to be visited by esoterically trained religious leaders who had specially prepared themselves for their encounter with a powerful place.

This report describes the places involved and responses received from American Indian tribal representatives during the field visits conducted from June 2006 to June 2007. This report helps both the American Indian tribes and the involved Federal agencies to better understand what kinds of responses have been recorded and what kinds of places have elicited these responses.

1.5 Consultation and Cultural Affiliation

Federal agencies consult with tribal governments under the directive of Executive Order 13175 (November 6, 2000), Consultation and Coordination with Indian Tribal Governments, which defines agencies legal obligations of consultation. Executive Order (EO) 13175 reaffirms the U.S. Government's responsibility for continued collaboration and meaningful consultation with Tribal Governments in the development of Federal policies that have tribal implications and requires federal agencies to be in consultation with Native American tribes for the protection of the tribes' cultural and religious practices. This executive order also seeks to reduce the imposition of un-funded mandates upon Indian tribes (EO 13175).

EO 13175 also enhances other regulatory requirements, such as the American Indian Religious Freedom Act (1978), and Executive Order 13007 concerning Indian Sacred Sites (May 24, 1996). These regulations serve as further guidance to agencies as to their relationships with American Indian Tribes. Since the model of Consultation and Coordination with Indian Tribal Governments was first proposed by EO 13084 (May 19, 1998; revoked by EO 13175), this model has been adopted by the Nellis Air Force, Department of Energy – Nevada Operations, the

U.S. Forest Service (USFS), Desert National Wildlife Refuge Complex of the U.S. Fish and Wildlife Service, and the Federal Highways Administration.

When federal agencies enter into consultation with Native American tribes, there are three levels of guidance that shape the process. These levels serve to guide how tribes engage in the identification and assessment of resources on public lands and define the range of potential federal agency roles in that process.

The first level of guidance derives from the historic context of the people and the land. Indian people maintain that their Creator gave the land to them, and therefore they have a divine obligation to care for it. Although aboriginal title to the area was legally extinguished at the time that the United States Government took possession of the land, and further extinguished by the Indian Claims Commission, the obligation of stewardship felt by Indian people cannot be extinguished. These lands are closely connected to their historic memories, and carry within them many generations of their traditions.

The second level of guidance is the regulatory framework of the United States Government. American Indian Tribal governments have a long-standing legal and political relationship with the United States Government and its federal agencies. Treaties and agreements have established the foundation for government-to-government relationship between tribes and federal agencies. The legal environment has created the requirement of consultation with affiliated tribes based on this government-to-government relationship.

The third level of guidance stems from the relationship between the tribes and the agency. In order to conduct research along the OST that meets the consultation requirements guidelines, it is important that Indian people be partners in the process. In the book, *American Indians and the Nevada Test*, the term consultation is used to “describe a process by which American Indian peoples with aboriginal or historic ties to public lands are identified and brought into discussions about cultural resources in those lands” (Stoffle, Zedeño, and Halmo 2001: 22). Consultation is a term that has broader legal standing and is recognized in the United States, Canada and much of the western world (Stoffle 2000). Consultation can be accomplished in many ways, but its success relies on the understanding of all interested parties. For example, in addition to the agency learning from the tribes, the tribes learn about agency mandates, processes, and culture through public documents, site visits, meetings and face-to-face interactions with agency representatives.

1.5.1 General Consultation

General consultation allows for the establishment of permanent relationships between American Indian groups that have ties to the managed lands and resources, and the federal agencies that have the legal responsibility for managing them. General consultation works best when it is based on extensive research concerning cultural resources that Indian people have identified within the lands of concern; that is to say, general consultation should be based on a strong foundation of culturally diverse information (Stoffle, Zedeño, and Halmo 2001: 23).

General consultation has many advantages. It can occur in the absence of a specific project proposal involving the partner agency or a third (private or public) party. It can occur when the agency and the involved Indian people feel it is best not to be constricted by either time or issue. Another advantage of general consultation is that it produces a broad and continuously growing cultural resource information base, which becomes extremely useful when management and mitigation decisions must be made on short notice (Stoffle, Zedeño, and Halmo 2001: 23). As stated in *American Indians and the Nevada Test Site* (2001), general consultation is the “only way to build true and stable partnerships between federal agencies and American Indians,” (Stoffle, Zedeño, and Halmo 2001: 24).

1.5.2 Specific Consultation

Federal agencies that lack government-to-government relationships with Native American tribes usually begin with general consultation as the first step in the consultation process. After general consultations, it is expected that project specific negotiations can and will arise. These latter negotiations bring opportunities to modify and improve existing partnerships through the specific consultation process. Specific consultations can also be used to identify and respond to the impacts of small-scale development projects, changes in the interpretation of resources, and policies regarding inadvertent discoveries. Typical cultural resource studies are delineated into the following categories: (1) ethnoarchaeology, (2) ethnobotany, (3) ethnozoology, (4) rock art, (5) traditional cultural properties, (6) ethnogeography, and (7) cultural landscapes. These cultural resources tend to be studied separately so Indian tribes can send individuals with special knowledge about the topics. Specific consultations tend to be limited by the scope of the specific law that is being complied with, and by the proposed activity that is being evaluated.

Both general and specific consultations are linked with ecosystem management. Indian people consider traditional cultural properties, power places, sacred sites, and many natural resources to be inextricably linked to parts of an ecosystem and therefore perceive that proper ecosystem management must consider these traditional values.

Cultural resource studies are one tool available to help inform agency management about Native American concerns within a management unit. The Old Spanish Trail Native American Ethnographic Study has been designed as specific consultation, which will inform the NPS and BLM about the concerns the Indian people have regarding the OST.

1.5.3 Culturally Affiliated Tribes

In order to identify, protect, and manage cultural resources, government agencies find it useful to identify the tribes that are culturally affiliated (i.e. culturally connected) with the lands and resources within a management area such as the OST. Federal agencies use the term cultural affiliation in various ways for different purposes. American Indian tribal governments and cultural resource department also have their own definitions of this term.

At the broadest level cultural affiliation means a portion of land has become culturally central to an American Indian ethnic group. Connections between the Indian people and the land

may have been established before Europeans arrived (pre-1492), while Europeans were occupying and claiming the land (pre-1848), and/ or during the historic period following 1849. The NPS defined cultural affiliation:

Culturally Affiliation - means that there is a relationship of shared group identity that can be reasonably traced historically or prehistorically between a present day Indian tribe or Native Hawaiian organization and an identifiable earlier group (Native American Graves Protection and Repatriation Act 1990).

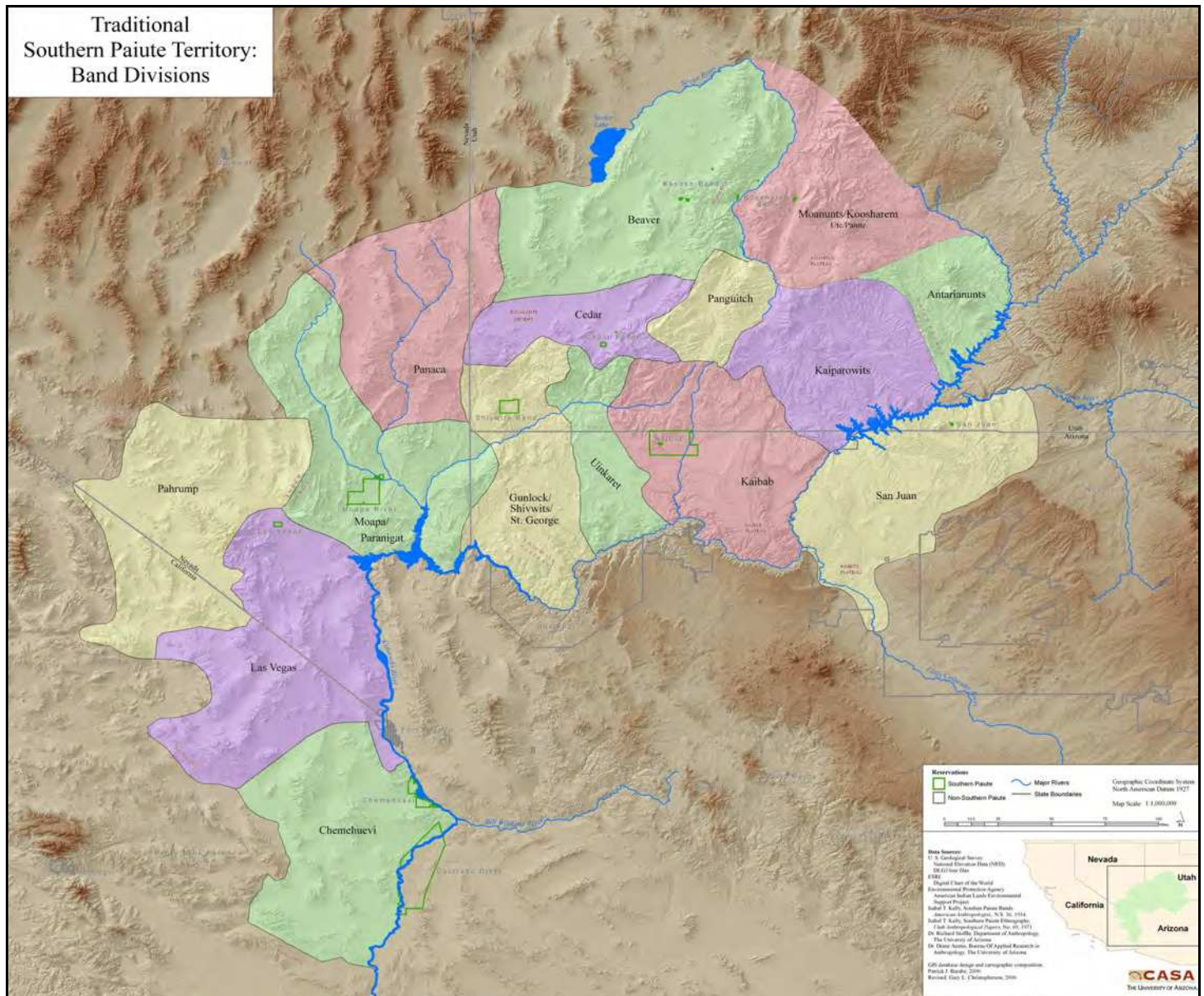
It is also important when seeking consultation from American Indian people that aboriginal title is recognized. Aboriginal title refers to land possessed by a particular tribe (actually ethnic group) up until the United States government acquired title (Sutton 1985). Maps 1.2 and 1.3 show the aboriginal territory of the Southern Paiute and Ute ethnic groups, documenting that they are culturally affiliated with large portions of the lands of the OST.

1.5.4 Cultural Affiliation and the Old Spanish Trail

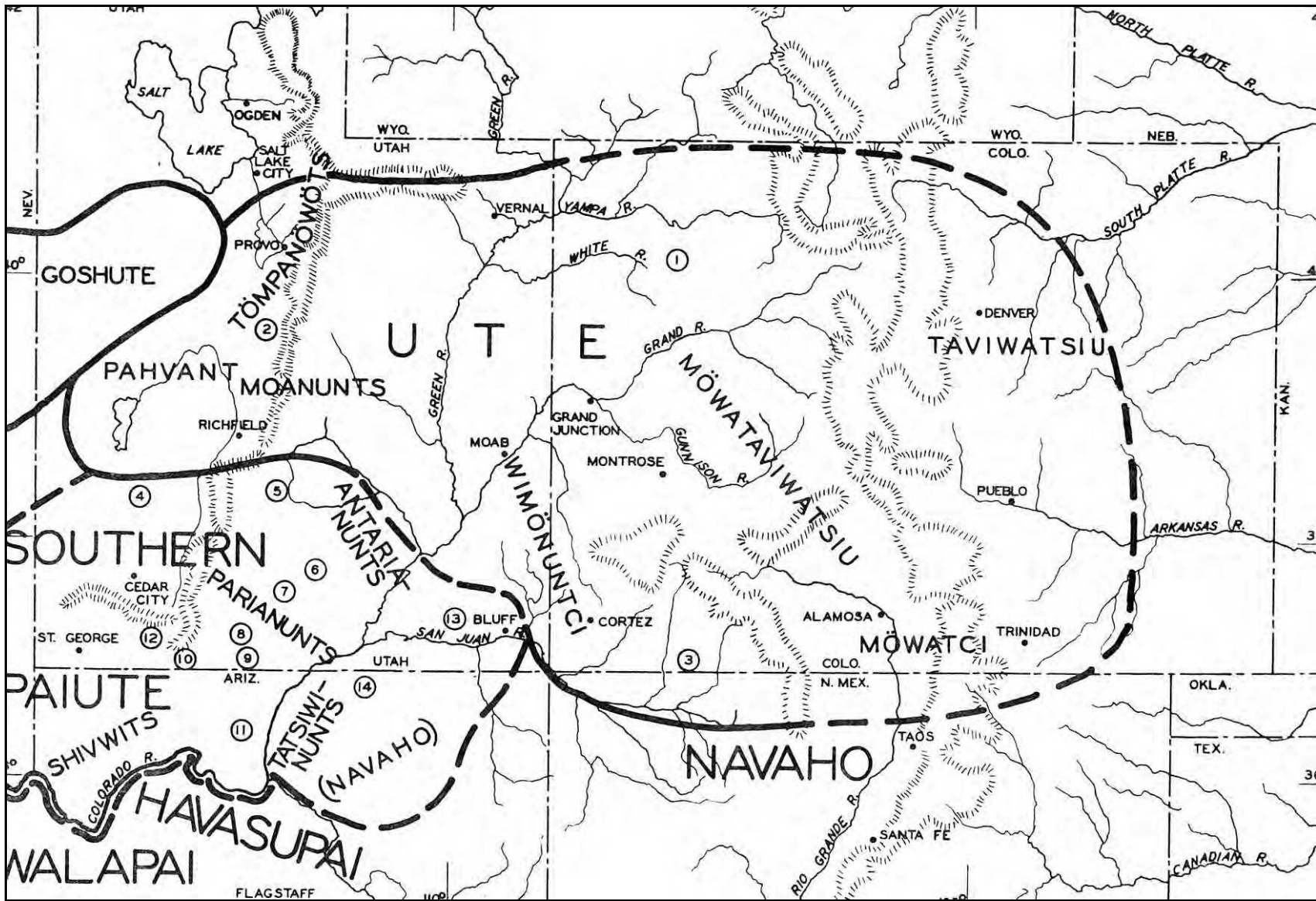
In order to determine which tribes were going to be engaged in the consultation process, the UofA team created three lists of ethnic and tribal groups to determine cultural affiliation to the OST. These lists were generated using three maps that were created by the US Geological Survey. The lists were split into the Southern Route, Central Route, and Eastern Route where the trail diverges; groups that fall along joint areas of the trail were listed under multiple routes. The ethnic groups, tribes, and reservations were selected because parts of the three branches either transverses or comes in close proximity of parts of the traditional lands, linguistic group, or reservations. Using these lists, the UofA team tallied the number of times the lands of an ethnic group or individual tribes (or bands) were transected by the OST. The list was narrowed down to those who had the highest tallies. During the project kick off meeting with NPS representatives, tribes were chosen that represented different ethnic groups on the three branches in five states along the OST. Government to Government consultation occurred with the following tribes:

<u>State</u>	<u>Tribes</u>
New Mexico	Taos Pueblo
Colorado	Southern Ute Tribe
Utah	Paiute Indian Tribe of Utah
Nevada	Moapa Indian Tribe
	Las Vegas Indian Tribe,
	Pahrump Paiute Tribe
California	Chemehuevi Indian Tribe

Maps 1.2 and 1.3 show the traditional territory for the Southern Paiute and Ute people who's lands correspond with the OST corridor.



Map 1.2 Traditional Southern Paiute Territory



Map 1.3 Traditional Ute Territory (Stewart 1942)

1.6 Conducting Site Visits and Summary of Interview

Ethnographic research helps federal agency decision-makers understand what is considered important to stakeholders. Ethnographic interviews serve as important tools for recording information about a particular group’s history and cultural connections to federally managed lands. Ethnography assists in making people partners in the process through sharing information. This can create productive long-term relationships between these peoples and the park. According to the National Park Service’s website for the Applied Ethnography Program, ethnographers also facilitate consultation with stakeholders in park planning, operation, and interpretation (Park Ethnography Program 2007).

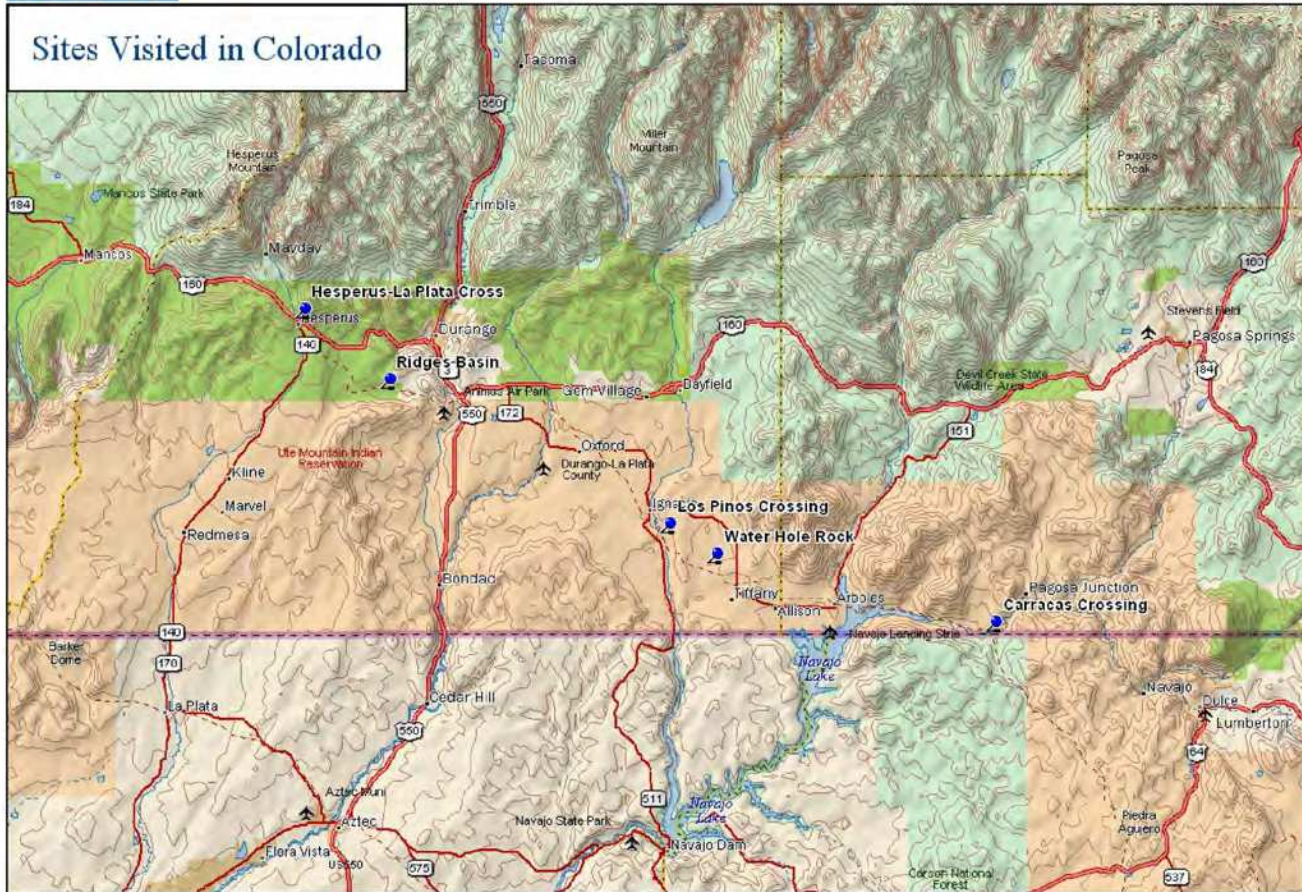
Once the tribes were determined, NPS staff contacted tribal leaders to initiate government to government consultation. After tribes agreed to participate in the study, the UofA team built field activity plans in conjunction with tribal representatives. Places were selected based on the kinds of traditional activities that occurred; some places were traditional gathering places, others were village and farming places, and others were ceremonial places along pilgrimage trails.

UofA team brought Indian people to 17 different sites during the field visits for this study. An eighteenth site was added during the write-up phase to add another dimension to the report. This site was the focus of an ethnographic study conducted by the UofA team in 1998, which examined the impacts the expansion of U.S. Highway 95 through the three springs complex in Las Vegas, Nevada. Table 1.1 lists the sites discussed in this report by state.

<u>State</u>	<u>Site</u>
Colorado	Carracas Crossing
	Water Hole Rock
	Crossing of the Los Pinos
	Ridges Basin
Utah	Hesperus- La Plata River
	Rochester Panel
	Camp Spring
Nevada	Salt Cave
	Stuart Ranch
	Pah Hu Wichi
	Cottonwood Spring
	Mountain Spring
	Stump Spring
California	Resting Spring
	Tecopa
	Dumont Dunes
	Salt Spring
	Piute Spring

Table 1.1 Sites Visited During the Study

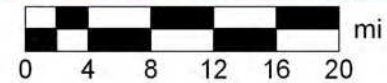
Maps 1.4, 1.5, and 1.6 orient the reader to the locations of the places visited during this study.



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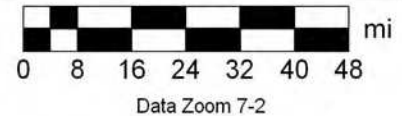


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Map 1.4 Sites Visited in Colorado

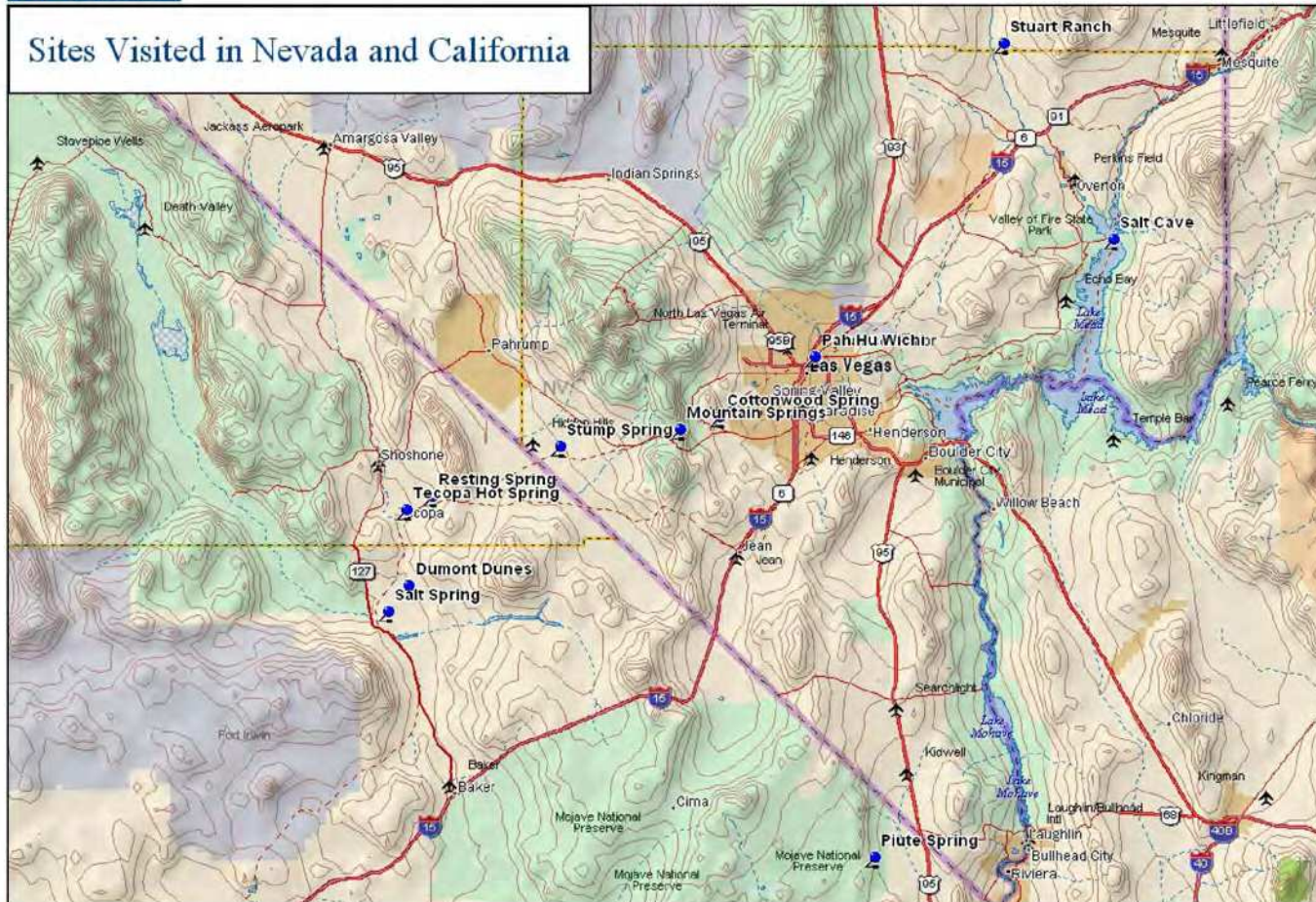


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Map 1.5 Sites Visited in Utah

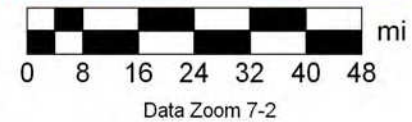
Sites Visited in Nevada and California



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Map 1.6 Sites Visited in Nevada and California

Site Number	Site	Moapa	Las Vegas	Chemehuevi	Pahrump	PITU-Shivwits	PITU-Koosharem	Southern Ute	Interviews from Previous Studies	Total
1	Carracas Crossing							3		3
2	Water Hole Rock							1		1
3	Crossing of the Los Pinos							2		2
3	Ridges Basin							8		8
4	Hesperus- La Plata River							2		2
5	Rochester Panel						3		5	8
6	Solar Calendar					5			3	8
7	Camp Spring					5			3	8
8	Salt Cave	2	1	2						5
9	Stuart Ranch	2	1	2						5
10	Pah Hu Wichi								36	36
11	Cottonwood Spring	2	1	2						5
12	Mountain Spring	2	1	2						5
13	Stump Spring				3					3
14	Resting Spring				3					3
15	Tecopa			2	3				3	8
16	Dumont Dunes			2	3				1	6
17	Salt Spring			2	3				2	7
18	Piute Spring			3	1				32	36
	Total	8	4	17	16	10	3	16	85	159

Table 1.2 Numbers of Interviews by Site and by Tribe

Date	Sites	Southern Paiute	Southern Ute	Taos	Interviews from Previous Studies	Total
<i>June 2, 2006</i>	Salt Cave	5				5
	Stuart Ranch	5				5
	Pah Hu Wichi				36	36
<i>June 3, 2006</i>	Cottonwood Spring	5				5
	Mountain Spring	5				5
<i>June 5, 2006</i>	Stump Spring	3				3
	Resting Spring	3				3
	Tecopa	5			3	8
<i>June 6, 2006</i>	Dumont Dunes	5			1	6
	Salt Spring	5			2	7
<i>June 7, 2006</i> <i>October 21, 2006</i>	Piute Spring	4			32	36
<i>October 21, 2006</i>	Camp Spring	5			3	8
	Solar Calendar	5			3	8
<i>October 23, 2006</i>	Rochester Panel	3			5	8
<i>December 7, 2006</i> <i>March 14 2007</i>	Crossing of the Los Pinos		2			2
<i>March 15 2007</i> <i>June 5, 2007</i>	Ridges Basin		8			8
<i>June 5, 2007</i>	Hesperus- La Plata River		2			2
<i>March 15, 2007</i> <i>June 6, 2007</i>	Carracas Crossing		3			3
<i>June 6, 2007</i>	Water Hole Rock		1			1
Total		58	16		85	159

Table 1.3 Number of Interviews per Site by Date and Ethnic Group

Table 1.2 presents the number of interviews that have been conducted by where they occurred; 159 interviews have been completed. The interviews by tribe are not balanced because at the last minute and thus without time for a replacement to be selected, some tribal representatives were not able to participate. Still, many interviews were conducted and the findings are of high quality as will be seen in the site-by-site descriptions that follow in chapters three and four. When available from past research projects, these site interviews can be supplemented by interviews conducted at these places with Indian people from these same tribes. Table 1.2 provides the readers with a chronology of interviews by site and by ethnic group

1.7 BARA Research Methodology

Our research team has worked with the Southern Paiute and Ute people for over 30 years and over this period of time a strong research partnership has been established. This partnership has directly influenced how we approach research projects involving Indian people and tribes and our research methodology. Our research involves the use of mixed methods (Tashakkori and Teddlie 1998; Beebe 2001) and triangulation (Campbell and Fisk 1959). The mixed methods approach involves collecting qualitative and quantitative data, and where there is convergence, confidence in the findings grows considerably (Jick 1979).

As part of our mixed methods approach, we have developed seven survey instruments that have been used at various times during the past twenty years. All survey instruments used by our research team have been developed with the assistance of official tribal representatives and these forms have been approved by participating tribal governments. Many of these instruments, been administered to Indian people during at least 10 different projects since 1997. This equated to over one thousand interviews with Indian people.

For this project, we developed a survey instrument that looks at traditional Native American use, meaning, and connections of a place and how these factors were impacted by movement along the OST (see Appendix A). This instrument incorporates questions from the BARA Site and Cultural Landscapes Forms and is divided into three sections. The first section has questions pertaining to site use history and types of ethnographic resources such as water, plants, animals, minerals, landforms, and archaeological remains. This section also includes questions regarding impacts to the place and its resources, which was the result of the presence of non-Indian travelers. The second section of the form has questions pertaining to the site's relationship to other areas and how they are connected—local landscapes. Like the section on use and meaning, there are also questions focusing on OST related impacts. The landscape impact questions are meant to examine how trail traffic impacted the interconnectedness and relationships of places and people. The last section guides the interview from a localized place specific discussion of the OST to a broader frame in order to understand how the trail and trail traffic impacted Indian people as a whole.

Experienced ethnographers administer these forms in a private session with indigenous cultural experts. The interviews are kept private in order to allow people to speak freely without fear of reprisals, and to ensure that all individual viewpoints are collected without a dominant voice overriding others. After these viewpoints are collected, they are analyzed, drafted into a

report, and submitted for tribal review before final publication. Through this process, the individual voices receive community agreement that the report represents a tribal perspective.

1.8 About the Bureau of Applied Research in Anthropology

BARA was founded in 1952 as the Bureau of Ethnic Research, charged with the responsibility to monitor the socio-economic welfare of Native American communities in Arizona. In 1982, BARA changed its name and vastly expanded its research and training mission. Currently, the BARA faculty is comprised of sixteen state-funded and project-funded academic professionals organized around six different programs. For each program there exists a set of research activities consistent with the BARA mission, as well as corresponding academic courses and student participation that contribute in an integrated fashion to BARA's commitment to applied training.

The BARA ethnographic team involved with this study directs a program called Native American Cultural Resource Revitalization. Consistent with BARA's founding mission, to monitor the welfare and well being of Native American groups in Arizona, this program focuses on the national need to assure the preservation of Native American cultures and languages. A long history of misguided policy-making and disregard for native cultures in this country has created marginalized and dependent peoples with severe economic disadvantages and little control over their own destiny. Recent legislation, such as the American Indian Religious Freedom Act of 1978 and the Native American Graves Protection and Repatriation Act of 1990, has attempted to redress the situation and establish new policy paths that emphasize tribal empowerment and cultural respect. BARA has contributed to these new directions by developing standard procedures that assure the full participation of Native American tribes in the process of identifying and controlling their comprehensive cultural resource inventories. In this program, BARA researchers facilitate the interaction of tribes with government agencies and private organizations. Through the use of ethnography, BARA professionals have assisted communities in the reconstruction of their cultural histories, made Geographic Information Systems (GIS) technologies available to tribes wanting to identify and maintain their cultural landscapes, and worked to address language shift through the development of dictionaries and the promotion of language literacy on reservations.

This program also has contributed to the development of cultural resource theory within applied anthropology and has generated genuine, mutually respectful, and productive partnerships between the University and Native American tribes. One of BARA's most consistently supported research programs; the Native American Cultural Resource Revitalization has received long-term funding from tribes, the National Park Service, the Department of Energy, the Department of Defense, the Bureau of Reclamation, National Science Foundation, and other entities.

1.8.1 Research Team Qualifications

Richard Stoffle, P.I.

Dr. Stoffle is a senior research anthropologist at BARA. Dr. Stoffle has worked on American Indian environmental issues since 1976, when he participated in the first American Indian social impact assessment in the United States. This project was for an Environmental Impact Study of the Devers-Palo Verde Power-Line proposed to run from the Buckeye Atomic power plant near Phoenix, Arizona to the Palo Verde substation of Southern California Edison in California. Since that first study, Dr. Stoffle has worked successfully with more than a hundred American Indian tribes and most federal agencies to represent Indian environmental issues in land management decisions. Dr. Stoffle has a record of scholarly publications and research reports, which are available on request. Recent articles that reflect his current scholarly partnerships with Indian people (Stoffle, et al. 2008: ; Stoffle 2000) His most recent co-edited book (Stoffle, Zedeño and Halmo 2001) is a model of long-term research and consultation with Numic-speaking tribes and organizations in Nevada, California, Utah, and Arizona.

Kathleen Van Vlack

Miss Van Vlack is a Ph.D. student in the American Indian Studies Program at the University of Arizona. She has a B.A. in Anthropology, and a Master's in American Indian Studies, both from UA. Her Master's thesis focused on the traditional leadership system of the Southern Paiute Nation. She has worked with BARA as a Research Assistant for six years, as an undergraduate and graduate student, on federally-funded projects to address Native American concerns in the western United States, and Bahamian concerns in the Caribbean.

Rebecca Toupal

Dr. Toupal is an Assistant Research Scientist at BARA. Since 1987, she has worked on natural resource management issues with landowners, agencies, and tribal groups in the western U.S. She has degrees in range management, landscape architecture, and natural resource management. Since 1998, she has focused on human-nature relationships and cultural landscapes. Her publications include articles on conservation partnerships (High Plains Applied Anthropologist), the use of ethnography with geographic information systems (Environmental Science and Policy), and the identification of cultural landscapes to understand natural resource management impacts (Conservation Ecology, now Ecology and Society).

Sean O'Meara

Mr. O'Meara received a B.A. in History from the University of Arizona. He has worked with BARA as a Research Assistant since 2007 on federally-funded projects to address Native American and Hispanic concerns in the western United States.

Jessica Medwied-Savage

Miss Medwied-Savage is an honors undergraduate majoring in Anthropology and Spanish at the University of Arizona. She has worked with BARA as an undergraduate Research Assistant since 2006 on federally funded projects to address Native American and Hispanic concerns in the western United States.

Henry F. Dobyns

Dr. Dobyns is a noted anthropologist and ethnohistorian. Throughout his career, he has worked on topics addressing Native American and Spanish relations and borderlands issues and is considered by many an expert in this area. He has contributed dozens of essays, which have expanded our understanding of Spanish borderlands¹. He has written a history of Peru and was in-country field director of the famous Cornell Peru Project. He is a recognized expert on traditional American Indian culture and the cultural and environmental changes, which have resulting from their contact with European society. Dobyns is the former President of the Society for American Ethnohistory and a lifetime member of the Arizona Historical Society.

Richard Arnold

Mr. Arnold is the Chairman of the Pahrump Paiute Tribe, the Consolidated Group of Tribes and Organizations and Document Review Committee. He is also the Native American Program Coordinator for Nellis Air Force Base and the Nevada Test Site and has appeared in *Who's Who of American Indians*. He has been the author and co-author on numerous projects relating to Numic peoples in the Great Basin (Arnold et al. 1999; Stoffle, Van Vlack, Arnold 2006; Stoffle and Arnold 2003).

¹ Some selected references are: Henry F. Dobyns, "Indians in the Colonial Spanish Borderlands." Pp. 66-93 in *Indians in American History* edited by F.E. Hoxie. Arlington Heights: Harlan Davidson, 1952; H. F. Dobyns, *Pioneering Christians Among the Perishing Indians of Tucson*. Lima: Editorial Estudios Andinos. 1962; H. F. Dobyns, *Spanish Colonial Tucson: A Demographic History*. Tucson: University of Arizona Press, 1976a; H. F. Dobyns, *Spanish Colonial Frontier Research*. Albuquerque: Center for Anthropological Studies. Spanish Borderlands Research No. 1., 1989; H. F. Dobyns and P.H. Ezell, "Sonoran Missionaries in 1790," *New Mexico Historical Review*. 34:1 Pp: 52-54, 1959; G.P. Nabhan, A. Whiting, H. F. Dobyns, R. Hevly and R.C. Euler, "Devil's Claw Domestication: Evidence from Southwestern Indian Fields," *Journal of Ethnobiology* 1:1 Pp. 135-64, 1981; H. F. Dobyns, *Prehistoric Indian Occupation within the Eastern Area of the Yuman Complex: A Study in Applied Archaeology*. New York: Garland Pub., 1976b; H. F. Dobyns, "Native American Trade Centers as Contagious Disease Foci," Pp. 215-222 in *Disease and Demography in the Americas*, edited by John W. Verano and Douglas H. Ubelaker. Washington, D. C.: Smithsonian Institution, 1992, 219; H. F. Dobyns and Robert C. Euler, *The Havasupai People*. Phoenix: Indian Tribal Series, 1971, 15; Henry F. Dobyns, *From Fire to Flood*. Socorro: Ballena Press Anthropology Monograph 20, 1981, 115; H. F. Dobyns, Paul H. Ezell and Greta S. Ezell "Death of a Society," *Ethnohistory* 10:2 (Spring 1963) 105-61, 135-36; H. F. Dobyns, "Trade Centers: The Concept and a Rancherian Culture Area Example," *American Indian Culture and Research Journal* – 10:1 1984, 23-35.

Chapter Two

Re-examination of Armijo's Route

Antonio Armijo undertook the first commercial caravan from New Mexico to California along what would become the Old Spanish Trail on November 7, 1829. This trip marked the beginning of twenty years of bi-annual trade caravans who sought to bring woolen goods from New Mexico in exchange for horses in California. The route taken by Armijo's first journey has been documented and analyzed in Hafen and Hafens' *Old Spanish Trail: Santa Fe to Los Angeles* (1954). However a rereading of Armijo's diary with new insights provides a different interpretation of Armijo's route than that asserted by Hafen and Hafen. The following chapter analyzes the difficulties in reconstructing the route between New Mexico and southern California taken by the Antonio Armijo expedition in 1829-30 and provides updated maps¹ to orient the reader and illustrate the route we believe Armijo's expedition followed.

While providing a new interpretation of Armijo's route, this analysis discusses the many difficulties in determining the location of historic trails, especially as place names and landscapes have changed. As the OST was further developed and utilized, deviations to the route may have emerged as a result of impacts to areas frequented by travelers and as travelers became more familiar with the terrain. Thus while the middle branch of the OST is considered the main route used for commercial traffic during the 1829-1849 period, it may be more accurate to view the area traveled by traders from New Mexico to California as a trail corridor, that is a larger and more fluid route, rather than a single, specific trail. This would also allow for a discussion of sites and areas that were impacted by OST travelers but which are not located directly on the current, recognized trail.

For the purposes of reconstructing the route (Map 2.1) that Antonio Armijo's expedition took in 1829-30, the journey between Abiquiú and Mission San Gabriel can be divided into three sections: 1) From Abiquiú to the Crossing of the Fathers and the ford across the Colorado River at Glen Canon, 2) From the Crossing of the Fathers to the point where the expedition left the lower Colorado River, 3) The upland arid section between Mission San Gabriel and that point where the expedition left the lower Colorado River.

2.1 Propositions

We employ several general propositions in this analysis. Spaniards/Mexicans riding horse or muleback typically watered their mounts as regularly as possible. This usually meant that such travelers or explorers followed watercourses with surface flows. Crossing terrain lacking surface flows of water, Spaniards/Mexicans (typically following Native American guides) tried to travel as directly as possible from spring to spring. The Armijo

¹ The Maps accompanying this chapter can be viewed at 300% for optimal detail. The dotted green lines mark the route as we believe it to have occurred. Red and light green dotted lines mark the currently accepted route.

expedition plainly traveled in this manner between the lower Colorado River and San Gabriel Mission.

Riding horses or mules and leading a pack train, the New Mexicans preferred smooth terrain to slopes, avoiding steep slopes when they could. Given the mountainous terrain between the Rio Grande and the Pacific Ocean, they could not avoid climbing and descending.

2.1.1 Data

The Armijo expedition traveled from the Mancos River confluence with the San Juan River to the Crossing of the Fathers in 15 days. The distance between these two locations is 150 miles. Therefore, the expedition moved on the average of ten miles per day across high altitude steppe cut by incised canyons with significant mountain ranges.

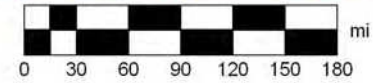
The Armijo expedition traveled the entire distance from Abiquiú to San Gabriel in 86 days, including 12 days of rest. It departed Abiquiú on November 7, 1829 and reached San Gabriel on January 31, 1830.



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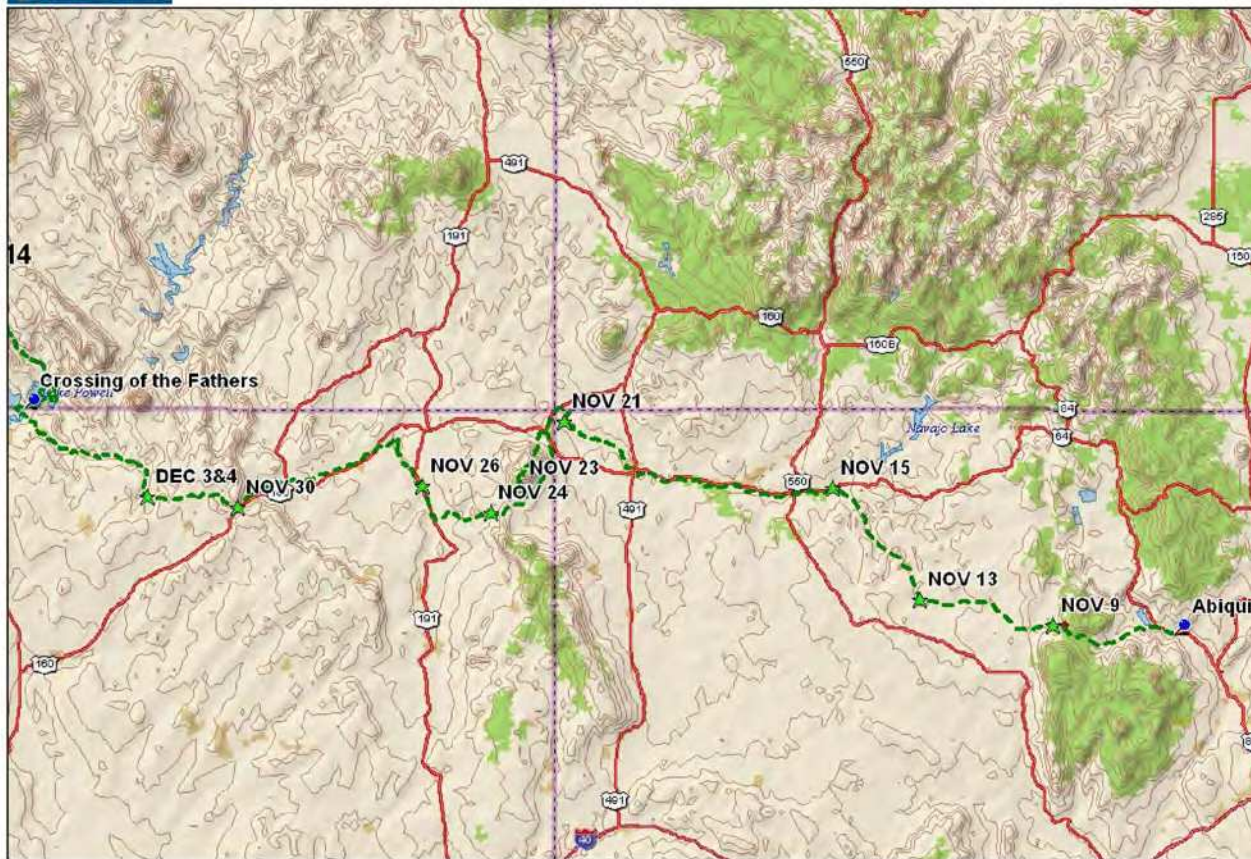
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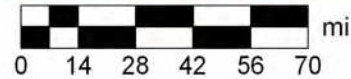
Map 2.1 Overview of Armijo's Route with Specific Dates



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Map 2.2 The Route from Abiquiú to the Crossing of the Fathers

2.2 Eastern Section: From Abiquiú to the Crossing of the Fathers

30 days—7 Nov. to 6 December (Map 2.2)

7 Nov – Depart Abiquiú, reach Rio Puerco, Pig or Dirty River (Hafen and Hafen 1954: 159).

Dominguez & Escalante ascended the Chama River box canyon for a league, then crossed 3 ½ leagues of rocky ground, took a siesta near a dry arroyo on the north side of the Valley of Piedra Alumbre. Then two more leagues, for 7 total – c. a. 18.5 miles (Domínguez 1956: 5). The Armijo expedition took a westerly rather than northerly course.

8 Nov – Layover

9 Nov – Arroyo del Agua

Oral history places the expedition at modern Gallina. The modern Río Gallina would be Armijo's Arroyo de Agua. The expedition traveled 8+ miles this day.

Velez turned north through wooden canyon, viewed upper Arroyo de Canjilon, rested at Rio de la Cebolla; rode 3 leagues to Río de Las Nutrias (Dominguez 1956: 5-6).

10 Nov – Capulín (Choke cherry)

The expedition rode west 3+ miles, turned south 1+ mile to avoid hogbacks, and veered northwest 6+ miles to the Capulín uplands, nearly on the modern road route. This place name persists.

11 Nov – Cañada Larga, and eastside tributary of Cañon Largo; water

We think that the expedition traveled 6+ miles this day. This place name persists.

12 Nov – At the mouth of Cañon Largo

Traveled 6+ miles. This entry refers to the mouth of the main cañon, where Cañon Largo joins near modern Lindreth Pumping Station and modern lakes, about 10+ miles from the head of Cañada Larga.

13 Nov – Still at the mouth of Cañon Largo – layover

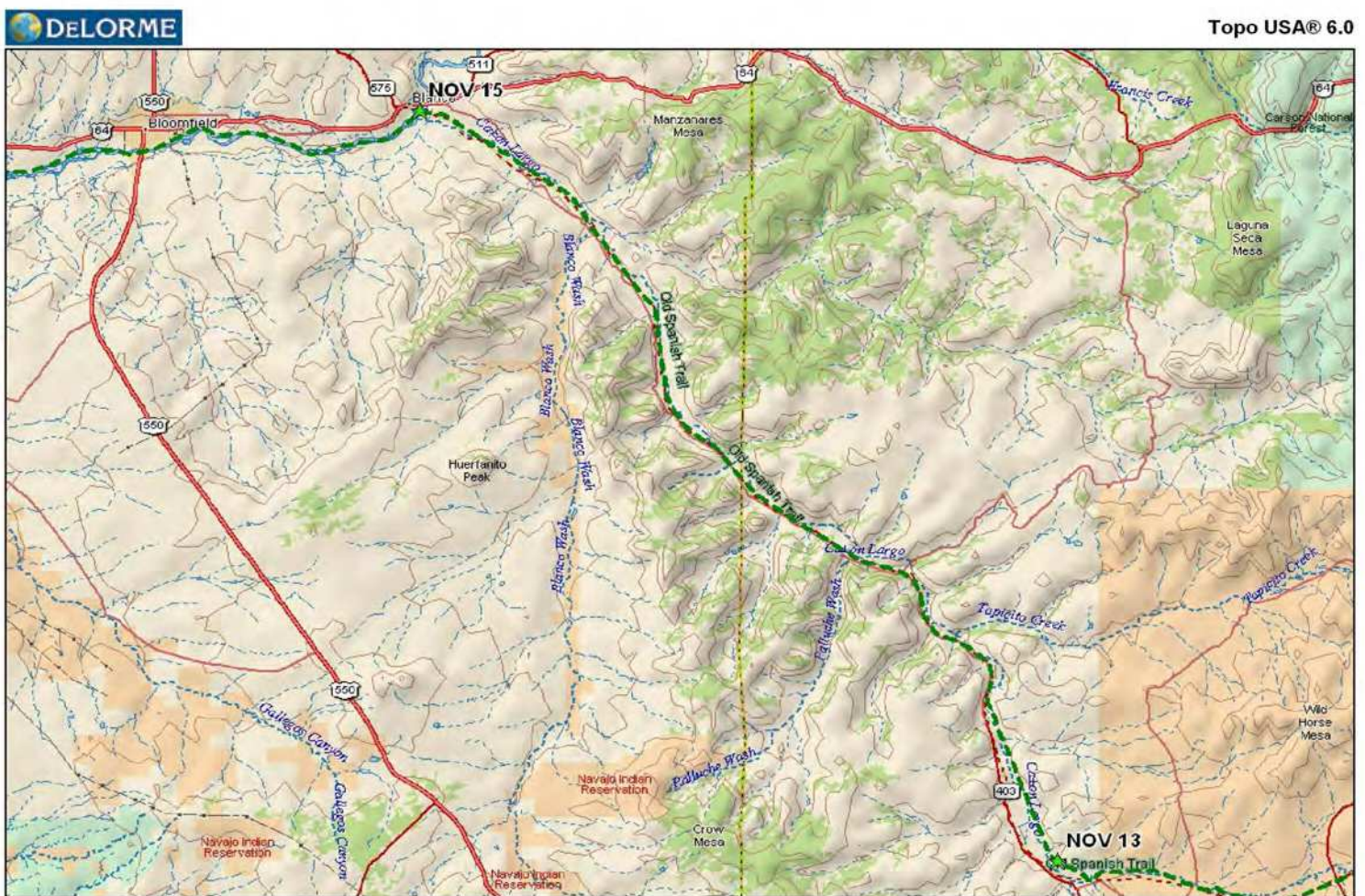
14 Nov – Lake of Cañon Largo; Navajo settlement

This “lake” was likely a beaver pond affording the Navajos a copious water supply. Post 1830 erosion arguably destroyed it. The expedition traveled at least 10 miles northwest via a very tortuous cañon.

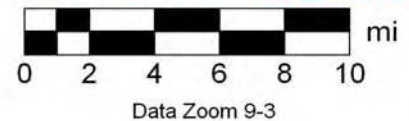
At 5+ miles from the mouth of Cañon Largo, the expedition passed a west side tributary shown on modern maps as Palluche Wash. This is an alternate spelling of Payuche, Armijo's label for Paiutes. This suggests a Numic salient toward the east of later Paiute residence as Navajo forced them westward.

15 Nov – San Juan River; The expedition forded to the north side.

The Armijo diary entries concerning Cañada Largo are apparently confusing. The Hafens stated that the expedition required four days to traverse it (Hafen and Hafen 1954: 165). Actually, Armijo traveled only two days from the confluence of Cañada Largo with Cañon Largo to the confluence of the San Juan River with Cañon Largo. The expedition traveled at least 38 miles along the Cañada Largo and Cañon Largo (Map 2.3).



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Map 2.3 Armijo's Route along Cañon Largo to the San Juan River

Our postulate concerning travel along surface flowing streams is supported by contemporary practice and oral history. In the nineteenth century, the federal government forced Jicarilla Apaches onto a reservation in northwestern New Mexico. The southern portion of that reservation includes the headwaters of both Cañada Largo and Cañon Largo. A Jicarilla Apache rancher holding some 1,400 acres recounted that ethnic oral history identifies the cañon as the route of the Old Spanish Trail. Moreover, that the trail along the creek at the bottom of the cañon continues to be used by sheep owners. Shepards drive sheep up the cañon/creek in the spring to higher altitude summer pastures, then drive the sheep down the cañon/creek in the fall to lower altitude winter pastures.

This pattern of sheep management historically has been quite widespread in the Southwestern United States. The role that the Cañon Largo catchment plays in the northwestern New Mexico portion of the greater system attests to the power of the geographic feature in funneling animal travel across the greater landscape.

16 Nov – Layover

17 Nov – Animas River confluence

The expedition traveled at least 11 miles this day.

18 Nov – Springs on bank of Río Plata

The expedition traveled at least 2 miles this day.

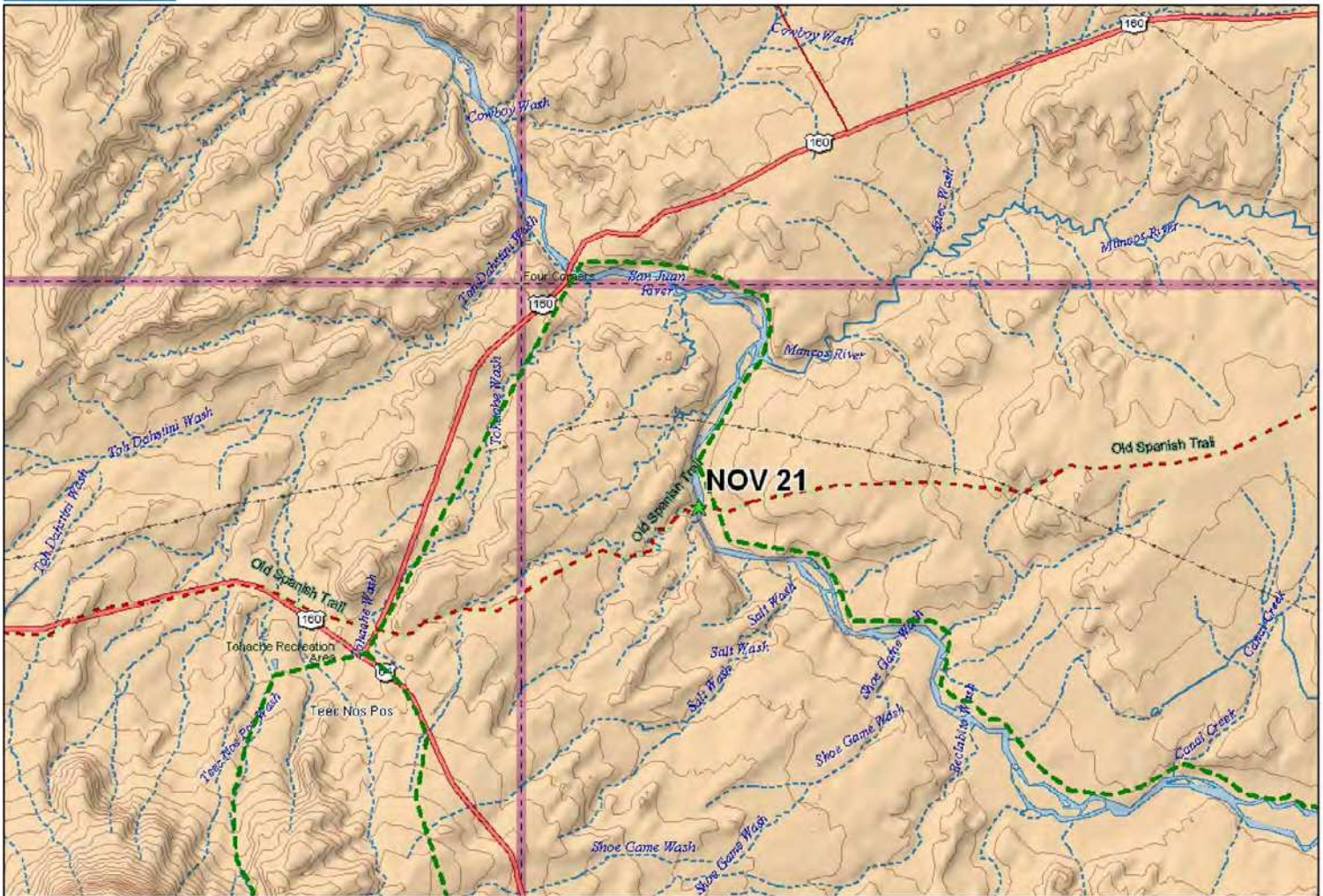
19 Nov – Mancos River confluence (San Lázaro)

Armijo had diverged from the Dominguez-Velez route, being downstream on the Mancos whereas the Franciscans were at the headwaters. Armijo traveled at least 21 miles this day in a tortuous cañon.

20 Nov – Layover (See Map 2.4 for San Juan River Crossing)

21 Nov – At San Juan River again

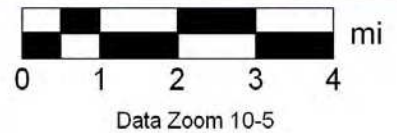
The expedition passed near the Four Corners (where Arizona, New Mexico, Utah and Colorado adjoin each other). The expedition spent four days descending the San Juan River (with two rest days). Next, it arguably exited the San Juan River Canyon via Toadastone Wash, but followed it for only a short distance before turning south-southwest toward Teek Nos Pos. The Hafens wrote that the expedition crossed Chinle Creek and continued westward to Paiute Creek (Hafen and Hafen 1954: 165).



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Map 2.4 San Juan River (Note the Different Crossing Locations)

22 Nov – Carrizo Mountains Spring

Armijo’s diary labels the mountains here as “Navajo Mountain.” What is now called Navajo Mountain (more accurately, Paiute Mountain) is located approximately 75 miles farther west overlooking Glen Canyon on the South Rim. The Hafen and Hafen map consequently shows the expedition’s route more or less straight west from the Four Corners, whereas it in fact looped some distance to the south in order to circle around, if not cross over, the Carrizo Mountains to visit a Navajo settlement and water livestock

from a surface flowing stream. We estimate that the expedition traveled at least 15 miles this day.

23 Nov – Blackhorse Creek (southward flowing)

Blackhorse Creek is the river that comes down the other side of Navajo Mountain. The expedition traded with Navajos living along this stream, and hired a Navajo guide for 9 mares.

At least two routes through or around the Carrizo Mountains were available. One would have ascended Teek Nos Pos Canyon to Pastora Peak, crossing the summit to Blackhorse Creek on the southern slope. This required climbing perhaps 2,000-3,000 feet (traveling 21+ miles). The other possible route curved east of the mountains more or less via the route of modern U. S. Highway 64. The route then curved southwest across the bajada slope to Blackhorse Creek, a distance of at least 23 miles, which, despite being slightly longer, avoided the climb past Pastora Peak. In accordance with our postulate, we conclude that the expedition took the longer but more level path around the mountains.

24 Nov – Hasbidito Creek

From Blackhorse Creek the expedition swung westward across the southern portion of the Carrizo Mountains, perhaps via Cove Mesa to Escondido (Hidden Spring). Arguably this site is now referred to as Hasbidito Spring on Hasbitidito Creek in recent terminology.

If the expedition crossed the mountain, it descended Blackhorse Creek far enough to turn almost due west across Cove Mesa in order to cross a mountain pass, where minerals were mined in historic times, and to strike Hasbidito Creek and descend it. Traveled 21+ miles.

25 Nov – Chelli Creek Canyon (not Canyon de Chelly)

Traveled 16+ miles.

26 Nov – Layover, perhaps at Rock Point (Map 2.5)

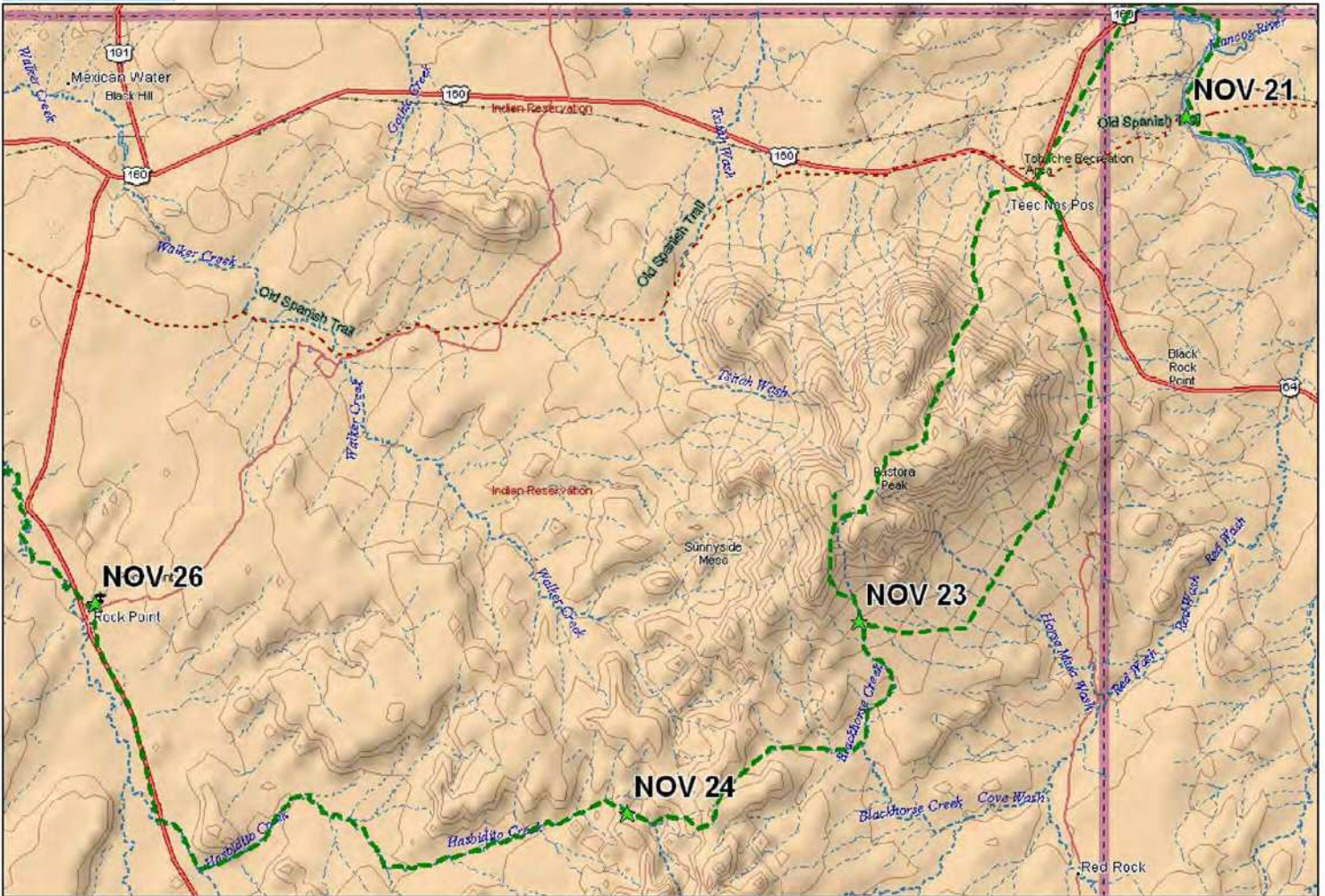
27 Nov – At rock artesanales [Rock art? Petroglyphs?]

From Rock Point to Laguna Creek at or near Dennehotso would require traveling 20+ miles.

28 Nov – Lake in mountain pass of Las Lemitas -- following Laguna Creek.

Dennehotso to Church Rock via Laguna Creek required 18+ miles travel.

29 Nov – Water holes of el Cuervo (Crow)



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Map 2.5 The Two Possible Routes through the Carizo Mountains to Rock Point

30 Nov – Waterholes of Payuchos (Paiutes)

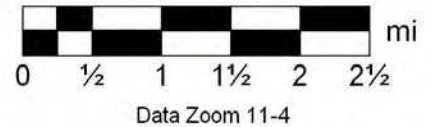
The expedition hand carried baggage down and up canyon walls: arguably Tsegi Canyon veering northwestward (Map 2.6).

The mouth of Tsegi Canyon required 18+ miles travel from Church Rock passing modern Kayenta.

1 Dec – Lake Las Milpitas (Little maize fields); the expedition worked its way down canyon.



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Map 2.6 The Expedition’s Route through Tsegi Canyon

The expedition would have turned westward to climb out of the Tsegi Canyon to Little Salt Canyon. Next it would have followed the route of the modern road across the plateau and then would have crossed Begashibito Wash to upper Navajo Creek at about Inscription House Ruin, traveling 20+ miles.

2 Dec– Picacho Springs; the expedition reconnoitered.

This spring would have been located in the southern portion of the mountains.

3 Dec– Navajo Creek; Craggy Canyon down grade and up grade on trail of “Padres.” Expeditionaries carry baggage again.

Actually, the Dominguez-Velez expedition did not pass this way, having made straight south from the Crossing of the Fathers to the Hopi Pueblos. The Armijo expedition would have moved due west to the headwaters of Navajo Creek.

4 Dec– Stopped (Map 2.7)

5 Dec– At the south rim of Glen Canyon at the edge of the mesa without water.

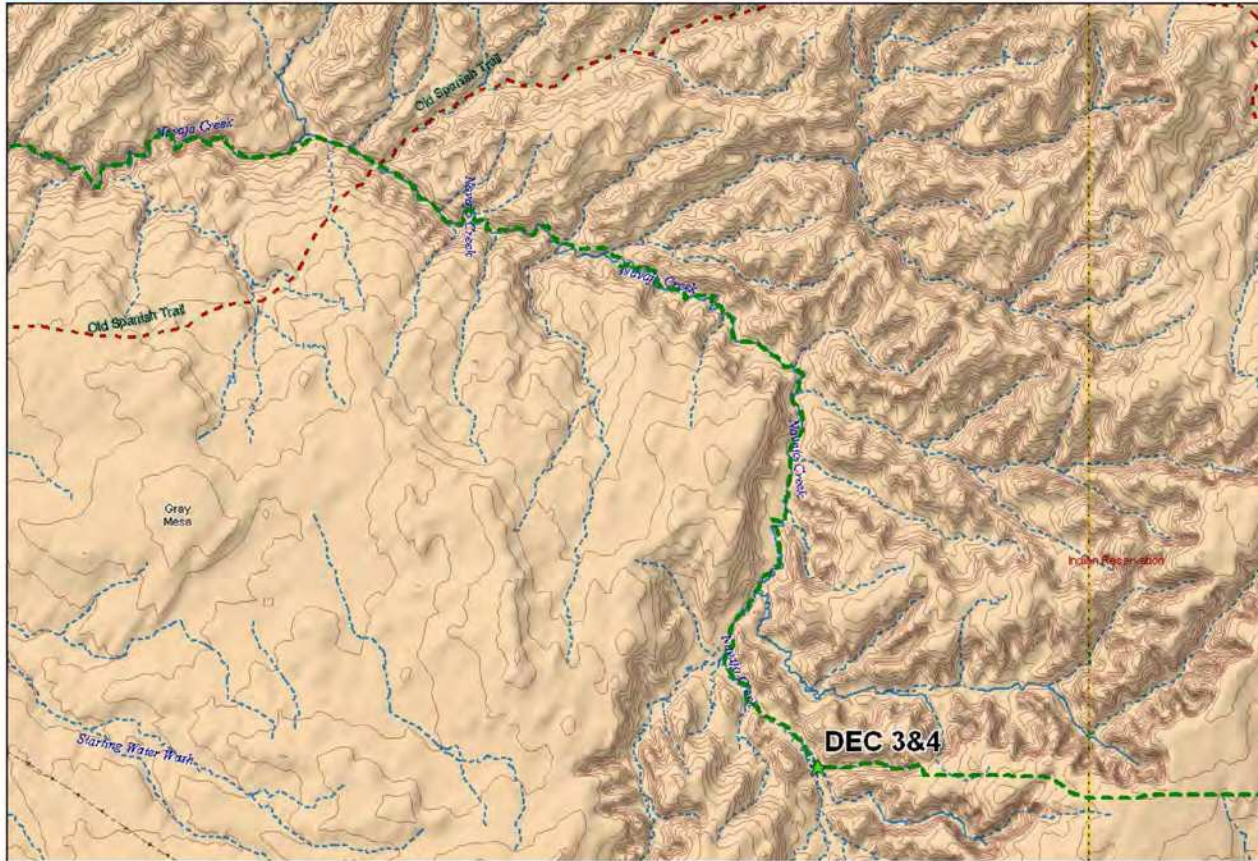
From Inscription House to the south rim would require 30+ miles of downgrade travel, but twists and turns would lengthen the distance.

6 Dec– At the ford immediately downstream from the Crossing of the Fathers steps.

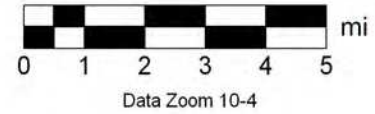
The expedition tests the ford. The expedition descended from the south rim to the Colorado River in a single day. The distance would be 20+ miles downhill (Map 2.8 and photograph in Herbert E. Bolton’s monograph).

7 Dec – Layover day

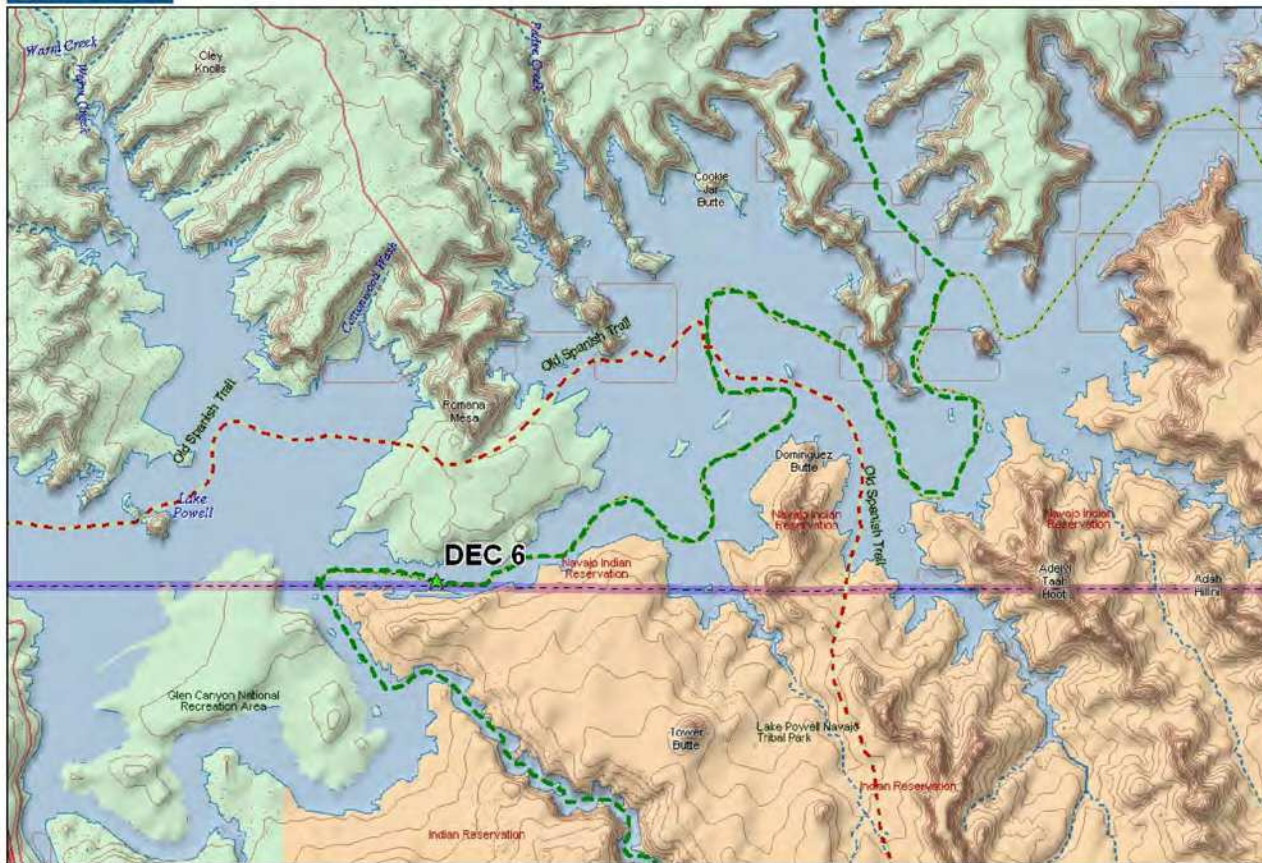
8 Dec– The expedition paused and “repaired the upgrade of the canyon” worked by the Franciscan Fathers (Hafen and Hafen 1954: 160).



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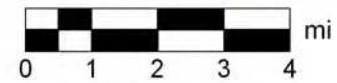
Map 2.7 The Trail along Navajo Creek



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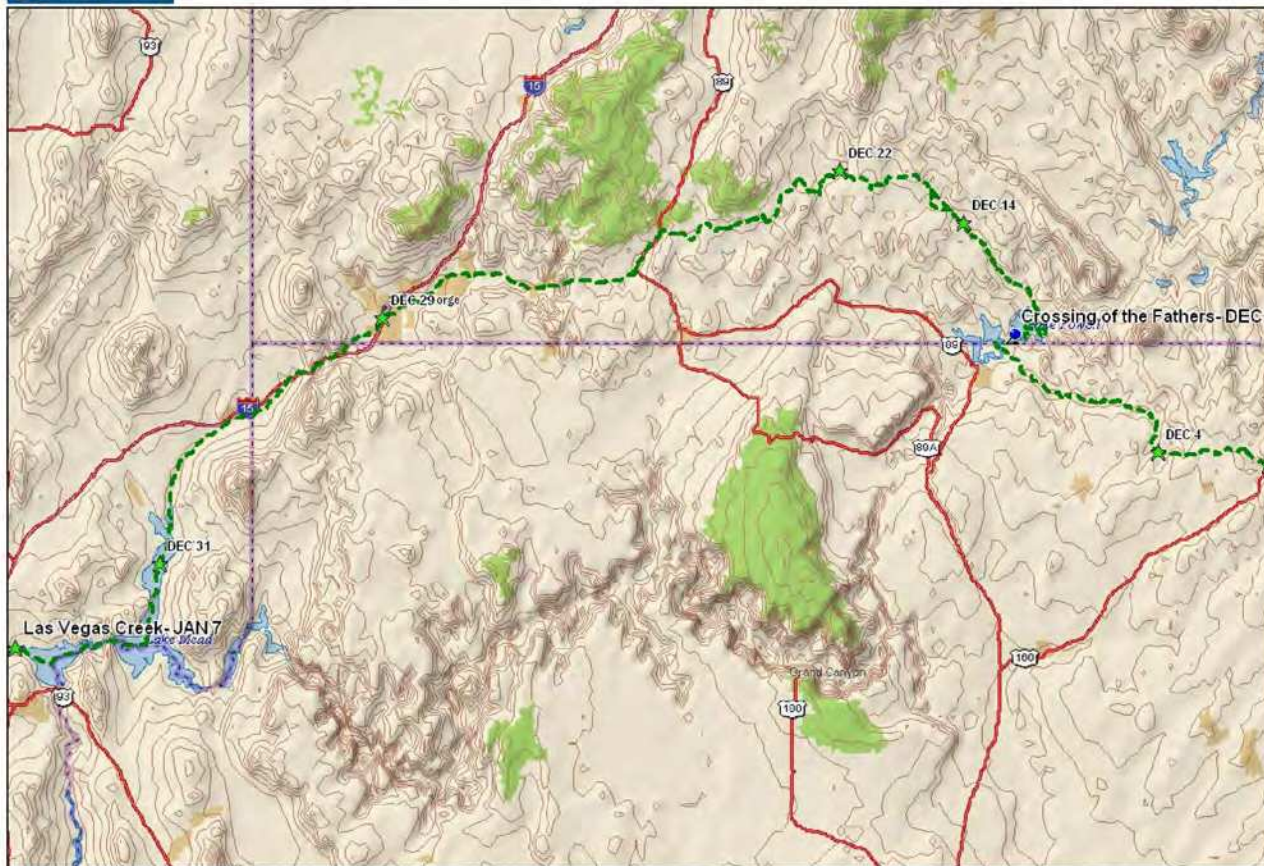
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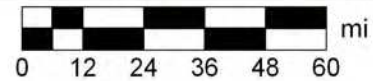
Map 2.8 Armijo's Route to the Crossing of the Fathers



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Map 2.9 Armijo's Route from the Crossing of the Father's to Las Vegas Creek

**2.3 Central Section: From the Crossing of the Fathers to the Colorado River
Confluence with Las Vegas Creek**
30 days - 9 Dec - 8 Jan (Map 2.9)

This is the most difficult section of the Armijo expedition's route to reconstruct.

9 Dec– The expedition climbed toward north rim of Glen Canyon via White Canyon (white wall).

We estimate that the expedition traveled 8 to 10 miles uphill.

The Hafens mapped the expedition's exodus from Glen Canyon as going west down the Colorado River and then ascending Wahweap Canyon. The diary does not mention descending the river. We consider lower Paria Canyon to be too deeply and steeply incised to permit its use for climbing out of Glen Canyon. We conclude that the Hafen and Hafen map is incorrect.

The diary records the expedition's immediate climb from the Colorado River at Crossing of the Fathers. Last Chance Creek and Canyon is almost directly north of the Crossing. Moreover, the white wall on the western flank of Last Chance Canyon is so conspicuous here that it is labeled as such (White Rocks) on the DeLorme Utah map. The correlation between Armijo's terminology and the color of lower Last Chance Canyon rather conclusively confirms this as the location where the expedition actually exited Glen Canyon.

10 Dec– Red slope or Red ridge (the brief time spent climbing also militates against the expedition's exiting via Wahweap Canyon). Payuches settlement.

The expedition climbed from white wall to red wall along Last Chance Canyon. Southern Paiutes were evidently gardening on the canyon bottom with stream flow irrigation. We estimate that the expedition traveled at least 8 miles this day.

11 Dec– To creek in Red Canyon

The stream may have sunk into gravelly fill in the lower portion of Last Chance Canyon, but flowed on the surface upstream. We estimate that the expedition traveled at least 8 miles this day, following Last Chance Creek, and not Dry Canyon nor Reese Canyon.

12 Dec– North Rim of Glen Canyon – dry plateau camp. Tree covered "ridge."

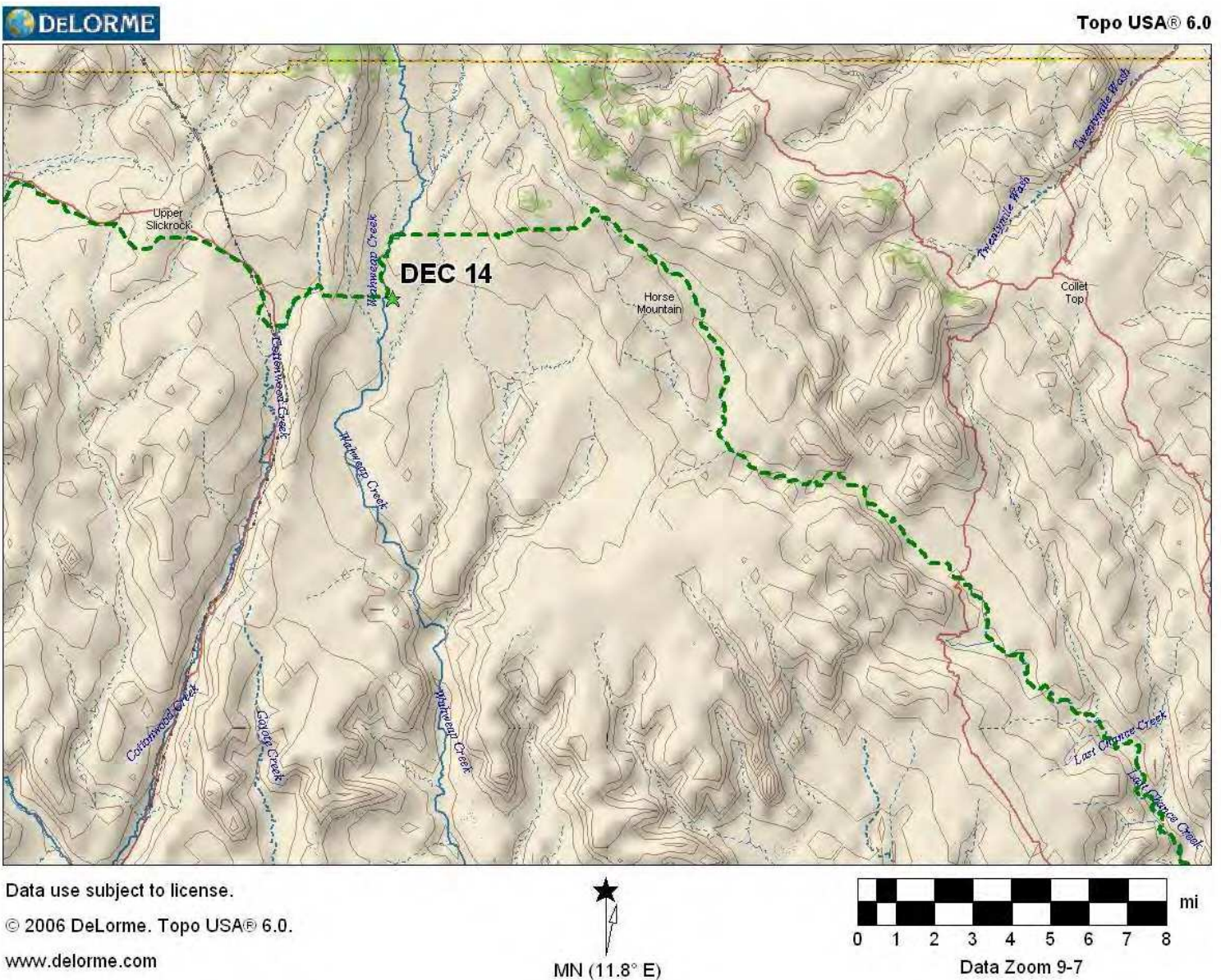
The expedition reached the Kaiparowits Plateau in four days climbing, gaining considerable altitude, and traveling a significant distance northward. The Hafens' text does not mention this portion of trip (Hafen and Hafen 1954: 166). We estimate that the expedition traveled about 5 miles this day.

13 Dec– At Colorado Pueblo, no water. The expedition used snow.

Probably “red pueblo” was a prehistoric Puebloan ruin constructed with red rocks. Arguably this ruin was located about 10 miles upstream from the North Rim of Glen Canyon in Paradise Canyon.

14 Dec– Carnero (ram) Creek. First stream.

Arguably near the source of Wahweap Creek’s west fork about 10 miles from Colorado Pueblo. The route went 2+ miles northwest via Paradise Canyon, then 6+ miles more or less due west across the plateau to upper Wahweap Creek (Map 2.10).



Map 2.10 The Trail along Last Chance Creek to Wahweap Creek

An alternate but longer path went up Paradise Creek virtually to its source, then turned west for three miles to upper Wahweap Creek.

15 Dec– Agua de la Vieja – Old Woman Water

Some earlier analysts have equated Agua de la Vieja with Pipe Springs in the Arizona Strip. Exiting Glen Canyon via Last Chance Creek, the Armijo expedition was considerably north of the latitude of Pipe Springs. This was the second water reached in Utah. The Hafens wrote that the expedition took 3 days (from an unidentified point) to reach Paria Creek, then 3 more days to reach Kanab Creek (Hafen and Hafen 1954: 166). We think the expedition descended Wahweap Creek for 8+ miles to the confluence of Blue Wash, and then turned west another mile to a southward flowing tributary.

16 Dec– Coyote plain – waterless campsite

We think that the expedition traveled west for 1 ½ mile, crossed Cottonwood Canyon and went 4 ½ miles via Butler Valley to the head of Round Valley Draw.

17 Dec– Caloso (Limestone) Canyon – water holes

We correlate Rock Springs with these “water holes” inferring that the expedition traveled this day 7+ miles from Round Valley Draw.

18 Dec– Layover, reconnaissance

The exploration’s pause suggests that the relatively short distances traversed the previous days indicated that the travelers did not really know where they should go.

19 Dec– Stinking Water Canyon; permanent water supply. Third water/stream encountered.

Arguably modern upper Paria River, 5+ miles from Rock Spring, reached by descending Dry Valley Creek for 5 miles.

20 Dec– At Severo River – Fourth Stream

Arguably the expedition never crossed the northward flowing headwaters of the East Fork of the Sevier River, the massif on which it rises and flows militating against any east-west crossing. Instead, the expedition ascended Sheep Creek for about 1 mile, and then took Bull Valley Gorge for 5+ miles northwest to Papoose Creek.

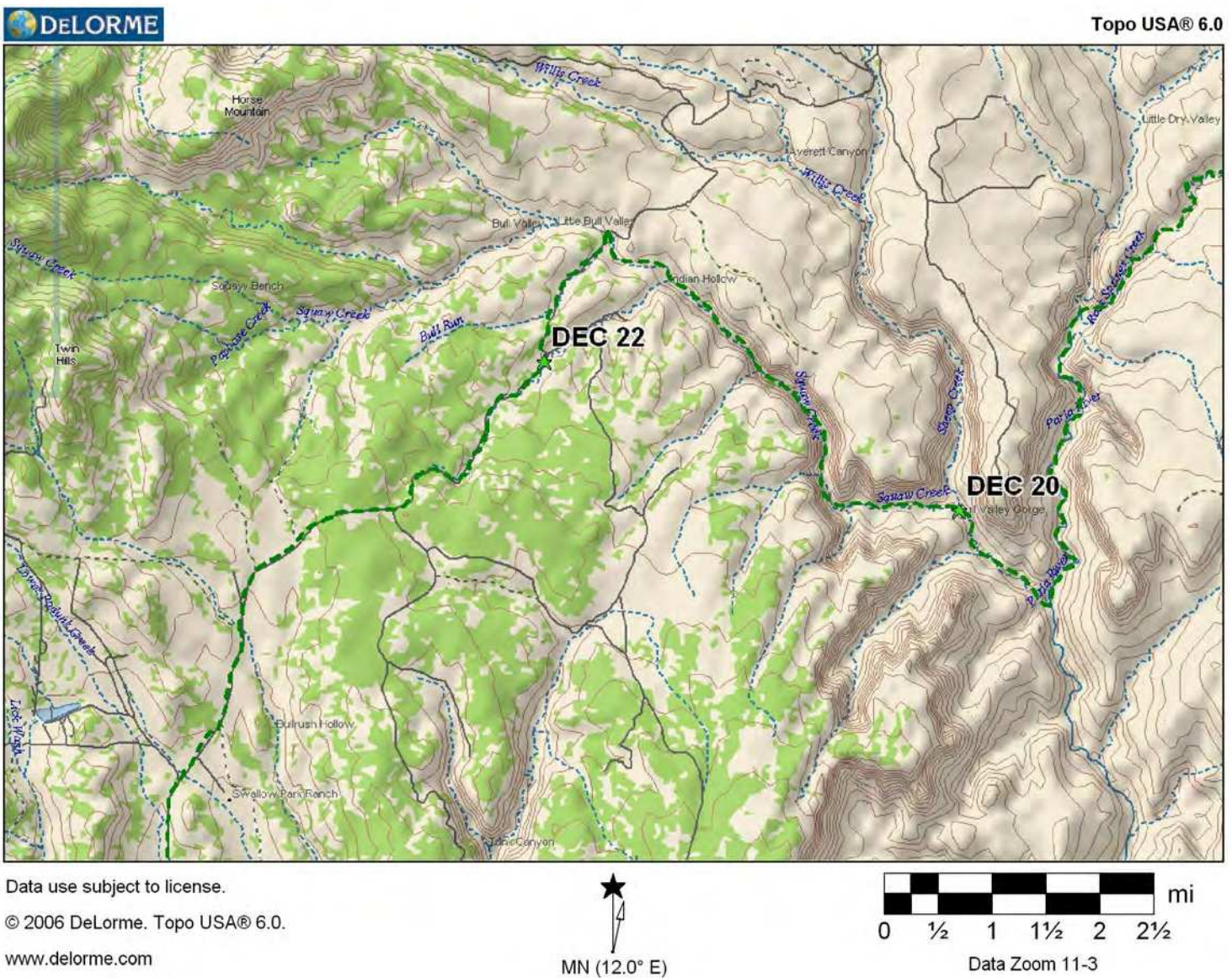
Papoose Creek rises on the south side of the high plateau on which the East Fork of the Sevier River originates and flows northward. It is not inconceivable, therefore, that Armijo took proximity to the Sevier River to justify referring to Papoose Creek the Sevier (if he knew from oral tradition of the Dominguez-Velez expedition or later New Mexico explorations that the Sevier River in fact was across the divide).

21 Dec– Layover and reconnaissance

Another day’s exploration suggests that the expedition did not really know exactly where it was or where to advance.

22 Dec– Milpas [Maize field] River – Fifth stream

Again, the expedition saw Southern Paiute irrigated maize fields. Arguably these maize fields were on the southward flowing Podunk Creek. From Papoose Creek, Armijo started southwestward across the bajada slope to more or less the same elevation, traversed by the modern vehicle road, and traveled 1 mile to Podunk Creek (Map 2.11).



Map 2.11 The Route between Papoose and Podunk Creek

23 Dec– Calabacillas (Little Wild Squash) Arroyo

The Spanish word does not necessarily include the concept wild, unless this was New Mexico colloquialism. The plants might have been Paiute cultivars. Given how laconic Armijo was, this reference indicates that the plants impressed him, arguably suggesting at least subsurface irrigation of the distinctive plants. Arguably, the squash were growing along the west fork – Thompson Creek – of Johnson Canyon. The expedition traversed an estimated 12+ miles from Podunk Creek across uplands.

24 Dec– Beyond Milpas River again – Sixth stream

We think that the expedition traveled 11+ miles this day, from the west fork of Johnson Canyon along or near the modern road route past Bald Knob to lower Sink Valley Wash, down that drainage to upper Kanab Creek and about one mile farther “beyond” this Maizefield River (i.e., Kanab Creek).

25 Dec– Hit Servero River for the second time – Seventh stream

In view of the fairly clear geography of the lower reaches of this stream, it was not the Sevier, but the Virgin. We infer that the expedition struck the East Fork after skirting Bryce Canyon on the south. The Hafens placed the expedition this day near Littlefields, Arizona, which is rather far downstream to be feasible (Hafen and Hafen 1954: 167). The Hafens’ text is thus quite inconsistent with the Hafens’ map. Arguably, the expedition struck the East Fork on the Virgin River at or near modern Glendale. The descent into the river valley from the east is precipitous and dangerous even on the contemporary four-wheel drive vehicle road.

26 Dec– Follow this “Servero” River downstream

The expedition traveled 16+ miles downstream along the Virgin River to the confluence with Meadow Creek.

27 Dec– The expedition met natives wearing (shell) rings through their noses; following the “Severo” river downstream.

We estimate the expedition traveled 20+ miles to about Willow Springs, passing the site of modern Rockville.

28 Dec– Following this “Severo” River downstream

Expedition traveled 20+ miles, passing the confluence with the North Fork of the Virgin River, the sites of modern Verkin and Hurricane.

29 Dec– Pass slough in this “Severo” River

We estimate the expedition traveled 20+ miles down the Virgin River, passing its confluence with the Santa Clara River, and site of modern St. George (probable slough location).

30 Dec– Following this “Severo” River downstream

Jedediah Smith had a “difficult” time descending the Virgin River downstream from later St. George, traveling in the riverbed through a “rough” canyon (Morgan 1953: 198).

31 Dec– Following this “Severo” River downstream

We estimate the expedition made another 20+ miles this day. Passing the confluence of Muddy River with the Virgin and going some 6 miles south along the Virgin.

1 Jan 1830 – Again reach Rio Grande; Rafael Rivera went missing on an individual exploration.

This “Severo” River the expedition followed downstream for 6+ days was the Virgin River. Compare Jedediah Smith’s description of this descent of that stream. Smith took 10 days to descend the Virgin River (his Adams River), from its confluence with Ash Creek to its confluence with the Colorado River.

2 Jan – Descend Rio Grande via “rugged trail.”

3 Jan – Travel downstream along Rio Grande

Travel along the entrenched Colorado River would necessarily have been relatively slow.

4 Jan – Layover and reconnaissance

5 Jan – Layover and search for Rivera (Hafen and Hafen 1954: 163).

6 Jan – Yerba del Manso Arroyo, and reconnaissance

Yerba del Manso appears to be the phreatophyte, indicating an abundant water supply, subterranean if not surface.

7 Jan – Encamped; Rivera rejoined the expedition, having seen the ford where he crossed the “Río Grande” the previous year. He saw Cuchas Payuches and Hayatas.

The Ford River revisited was necessarily that in Mojave Valley. The Cuchas Payuches were Chemehuevi. On the face of the text, the Hayatas would have been Mojaves, but the diary later places Hayatas on then western slope of the Coast range.

Was there in 1830 a colony of Mojave traders at the western edge of the Mojave Desert on the multi-tribal trade route?

The Hafens placed the pack train at the mouth of Las Vegas Wash, (Hafen and Hafen 1954: 167) which emptied into the Colorado River downstream from the Virgin-Muddy River confluence with the main stream.

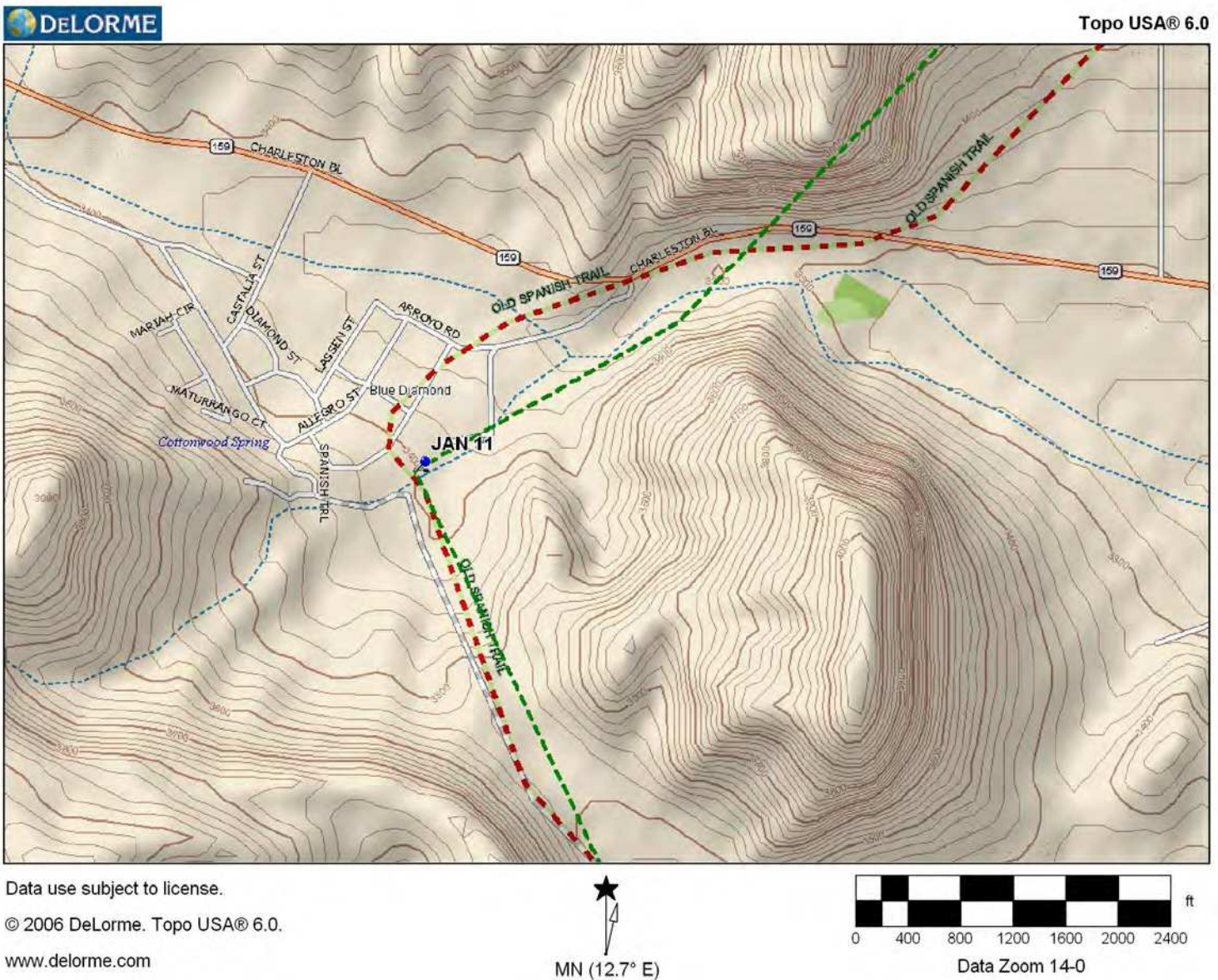
8 Jan – Encamp; Layover and reconnaissance

2.4 Western or Desert Section: From the Las Vegas Creek Confluence with the Colorado River to San Gabriel Mission
 23 days – 9 Jan- 31 Jan (Map 2.12)

9 Jan – Salado Arroyo (Saline wash)

10 Jan – Dry Lake

11 Jan – “Little Spring of the Turtle,” which the Hafens correlated with later Cottonwood Springs, 17 miles southwest of Las Vegas (Hafen and Hafen 1954: 167) (Map 2.13).

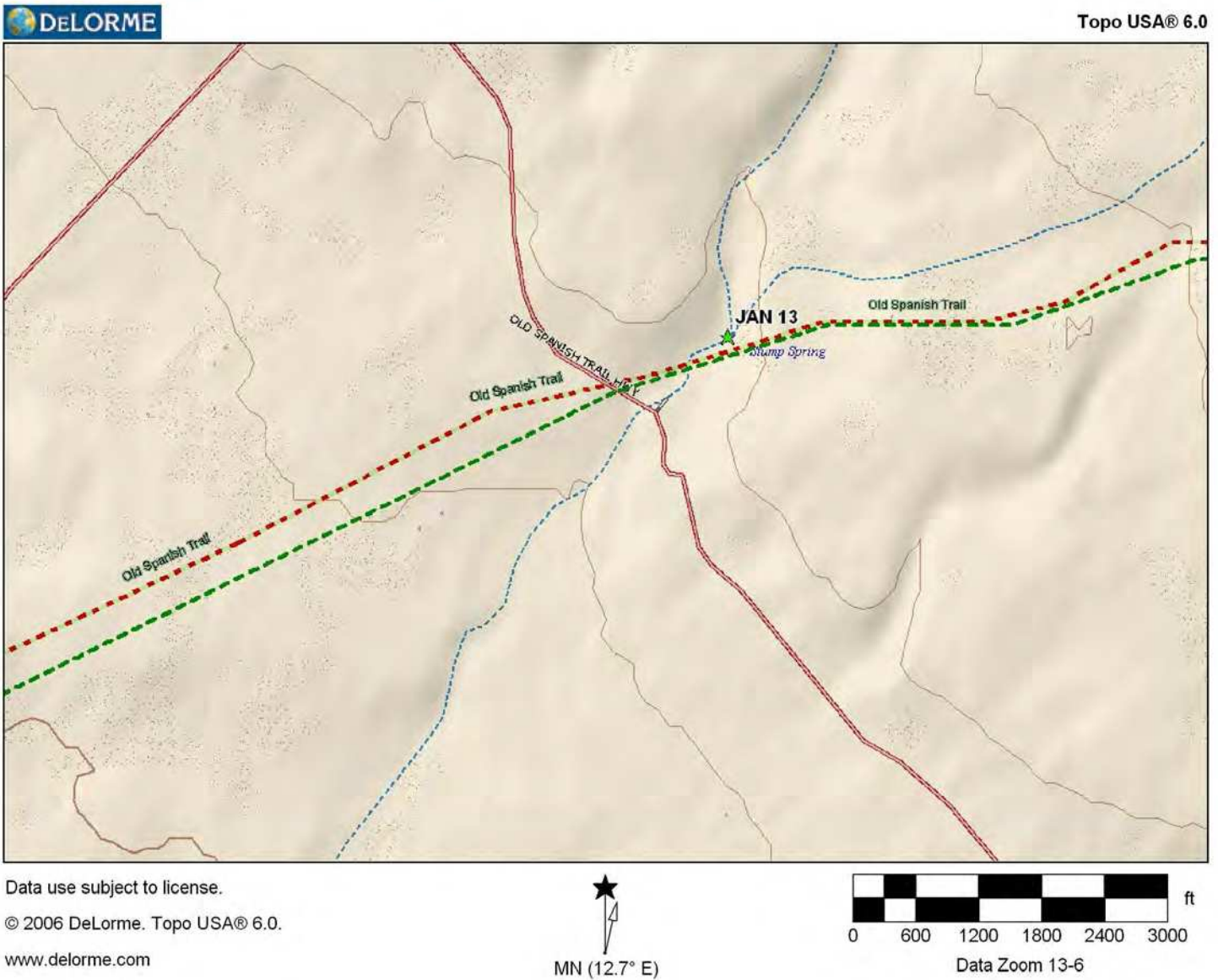


Map 2.13 The Trail near Cottonwood Springs

12 Jan – Pass without water

Did the expedition unknowingly miss Mountain Spring in the Spring Mountains, with its Indian village (Steiner 1999: 153)?

13 Jan – Little Salty Spring and Amargosa River according to the Hafens (Hafen and Hafen 1954: 167). Later called Stump Spring (Steiner 1999: 168) (Map 2.14).



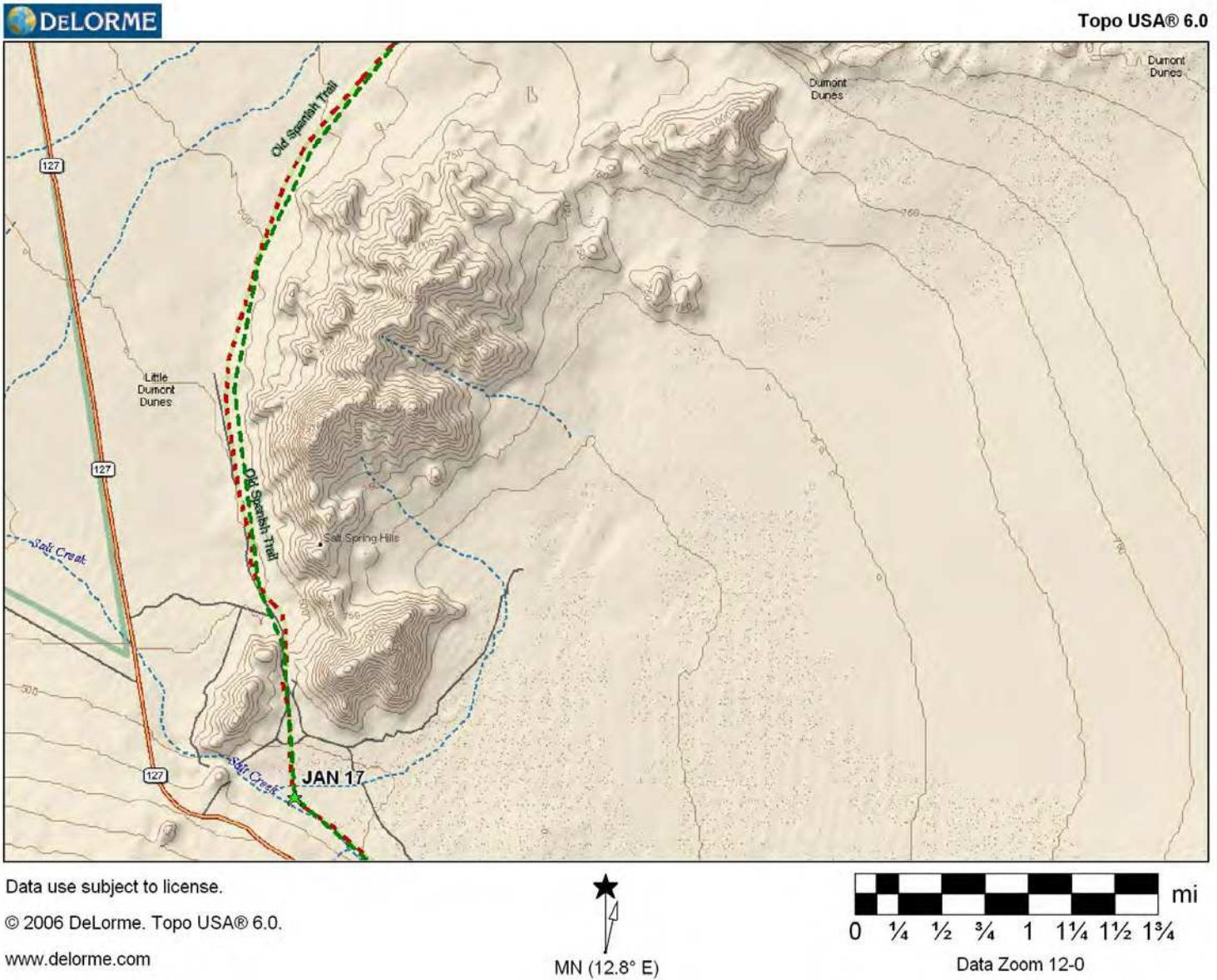
Map 2.14 The Trail through Stump Springs

14 Jan – Paiute River; saw Paiute village. The Hafens identified the stream as the Amargosa River (Hafen and Hafen 1954: 167, 168).

15 Jan – Down the same river

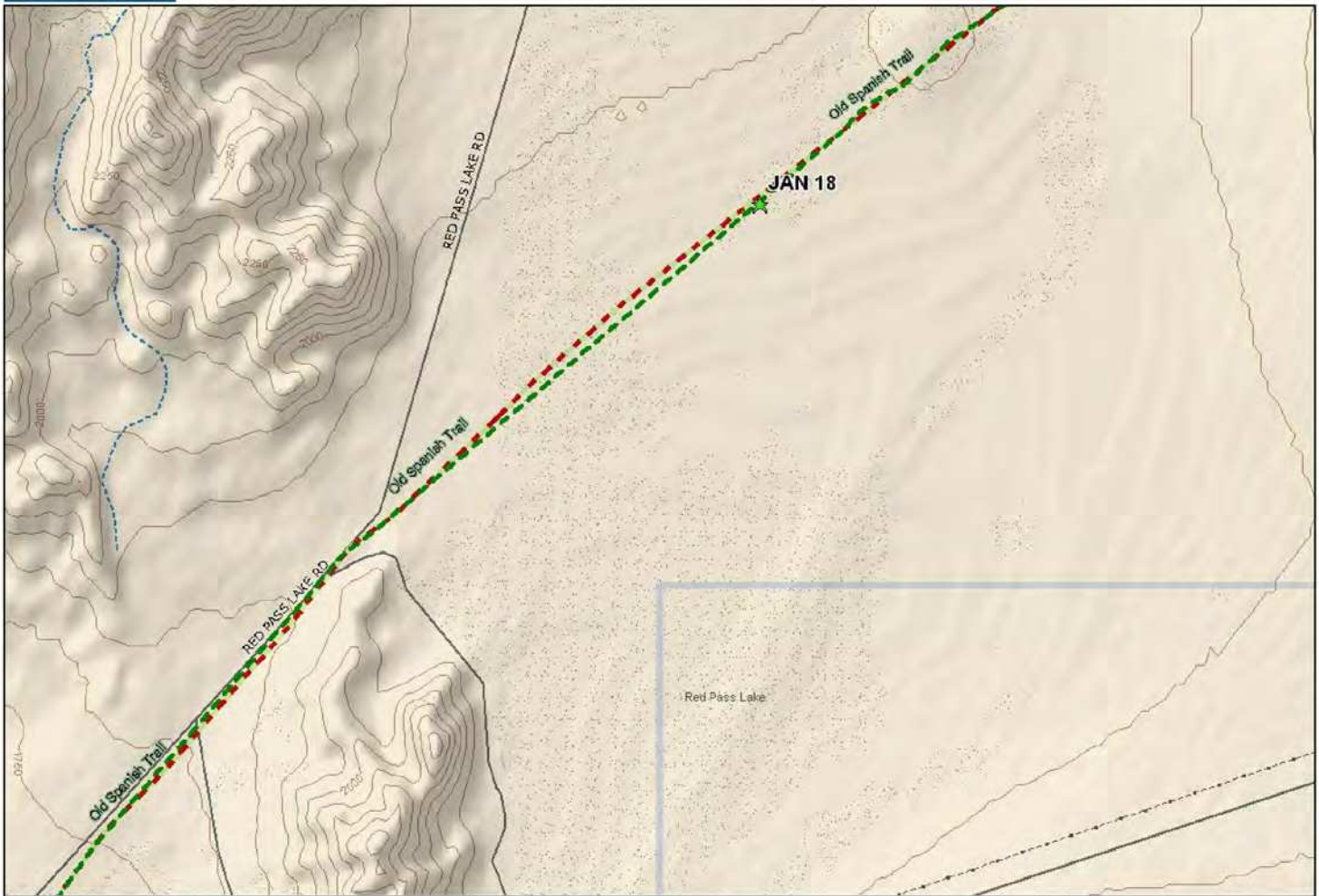
16 Jan – Confluence with Alkali River – Salitrosa

17 Jan – A day’s journey without water; Tecopa – Old Spanish Trail turns southward (Steiner 1999: 168). Salt Spring and Creek (alkaline) (Steiner 1999: 172, 174, 178) (Map 2.15).



Map 2.15 The Trail through Salt Creek near Salt Springs and Dumont Dunes

18 Jan – Miracle Lake. Lake Mud or Red Pass Lake, 6 miles north of Bitter springs (Hafen and Hafen 1954: 167) (Map 2.16).



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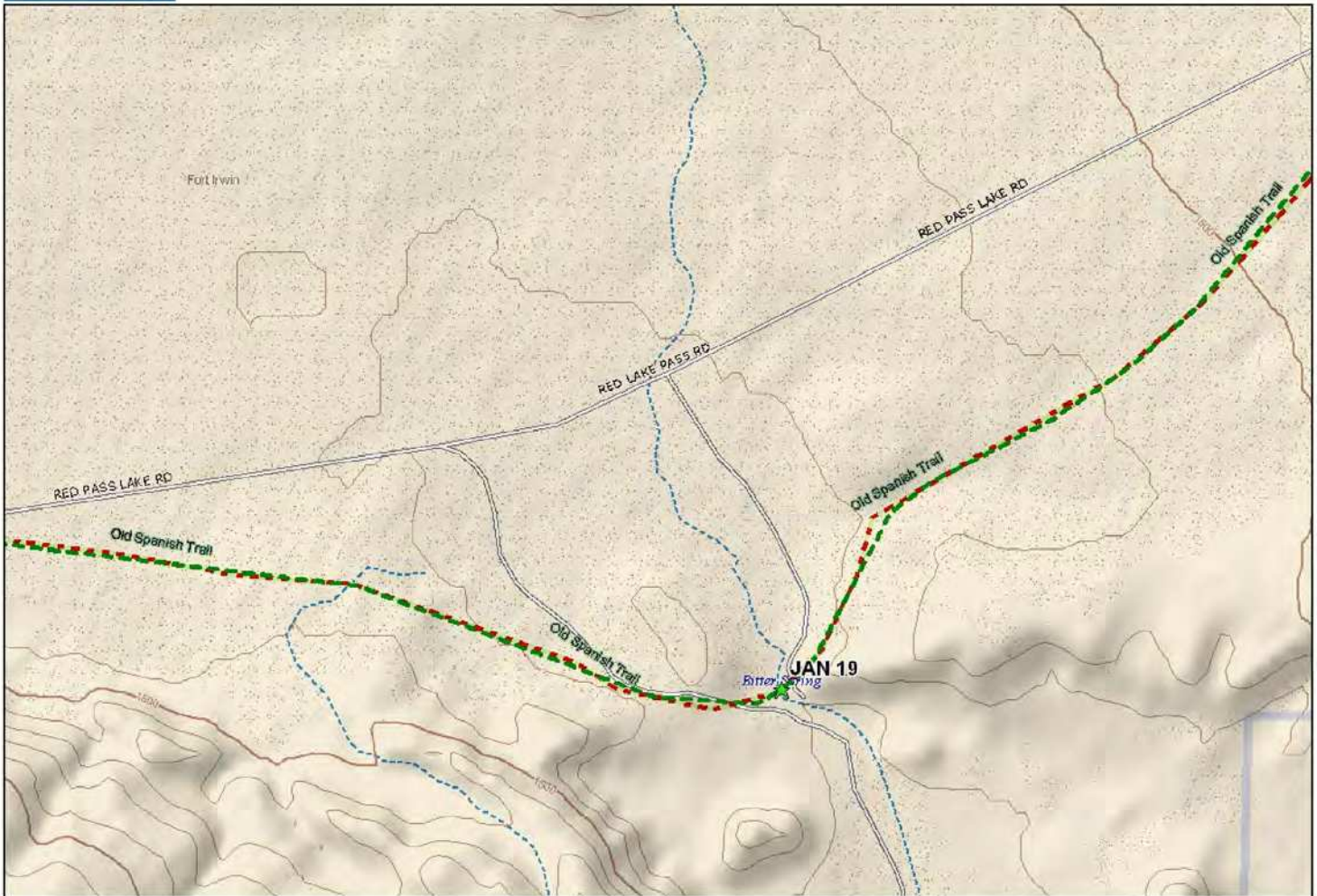
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Map 2.16 The Trail near Red Pass Lake

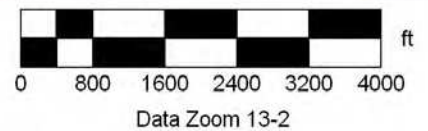
19 Jan – Malpais spring, later Bitter Spring, near a hill covered with lava (Steiner 1999: 182; Hafen and Hafen 1954: 168) (Map 2.17).

20 Jan – A day’s journey without water.

Physical traces of the trail mark the route southwestward from Malpais/Bitter Spring (Steiner 1999: 184). The route traversed Spanish Canyon in the arid Alvord Mountains.



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Map 2.17 The Trail through Bitter Springs

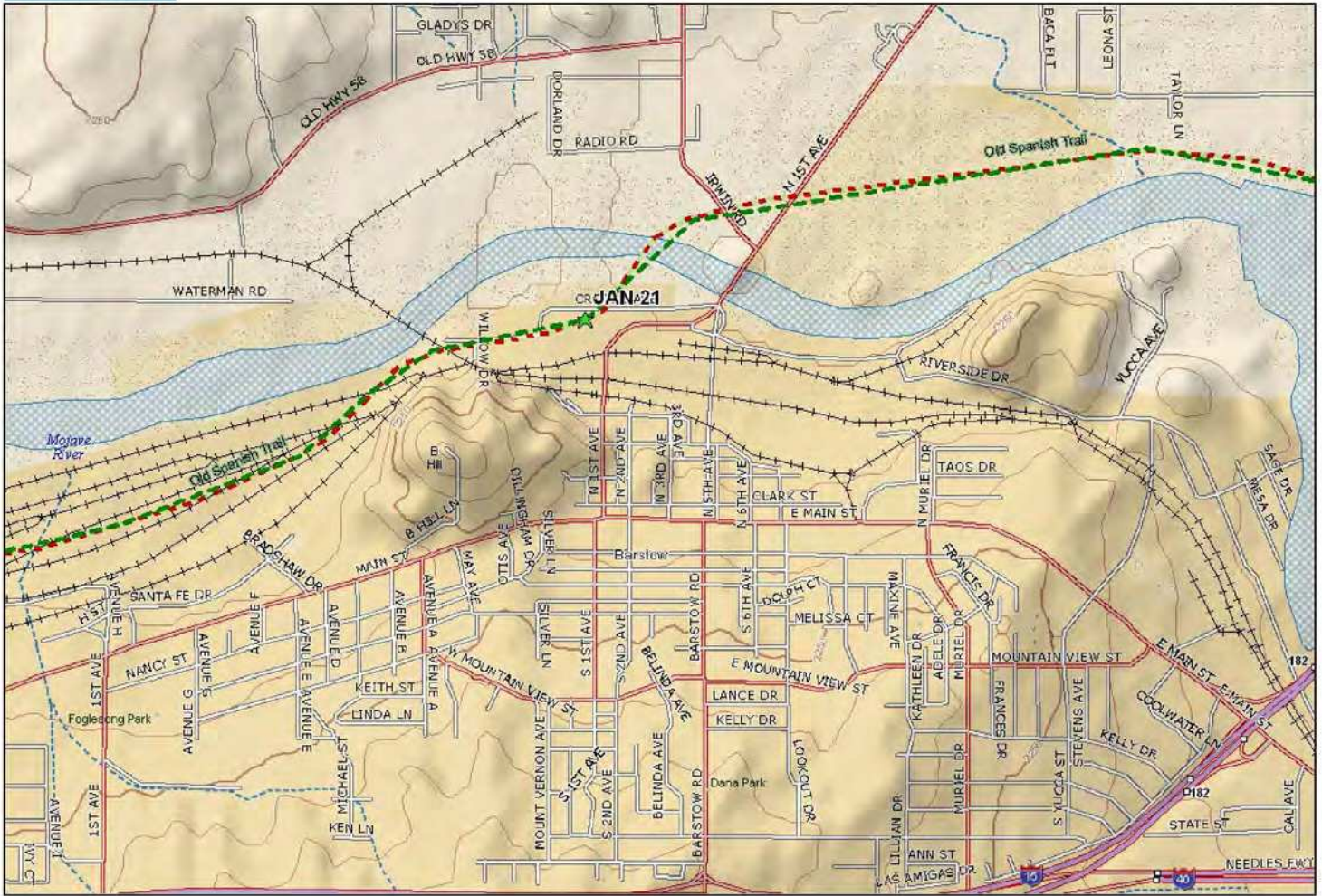
21 Jan – Barstow – junction with “Moqui [Hopi] Trail” from Mojave Valley (“Forks of the Road”). “Arroyo de Hayatas.” (Steiner 1999: 189, 191) (Map 2.18).

22 Jan – Ascend arroyo of Mojave River

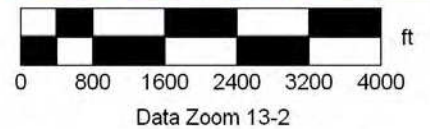
23 Jan – Ascend arroyo of Mojave River – Ate a horse

24 Jan – Ascend arroyo of Mojave River

25 Jan – Ascend arroyo of Mojave River



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Map 2.18 The Trail along the Mojave River through Barstow, CA

26 Jan – Ascend arroyo of Mojave River – Ate a mule

27 Jan – Ascend arroyo of Mojave River; six days on Mojave River.

Francisco T. H. Garcés took 21 days to travel from Mojave Valley to San Gabriel Mission in 1776.

In 1826, Jedediah S. Smith crossed from Mojave Valley to the mission in 17 days, including two layover days. He ascended the Mojave River for six days (Brooks 1977:

85-100) to Summit, (Morgan 1953: 201) crossing the San Bernardino Mountains via the multi-tribal (Hopi, Pai, Mojave, Chemehuevi, etc.) trading path.

In 1829 Ewing Young crossed in 13 days—three from Mojaves to Mojave River, ascending that river for six days, then four days to the mission.

28 Jan – San Bernardino Canyon via Cajon Pass according to the Hafens, (Hafen and Hafen 1954: 169) but actually via the multi-tribal trading trail.

29 Jan – Parage de San Juan. St. John's place

30 Jan – Fountain

31 Jan – San Gabriel Mission (Hafen and Hafen 1954: 164).

The trail from Summit to the mission ran down hill and then more or less level across contemporary metropolitan Los Angeles. It did not run straight so the various expeditions apparently averaged some 40 miles' travel per day.

CHAPTER THREE

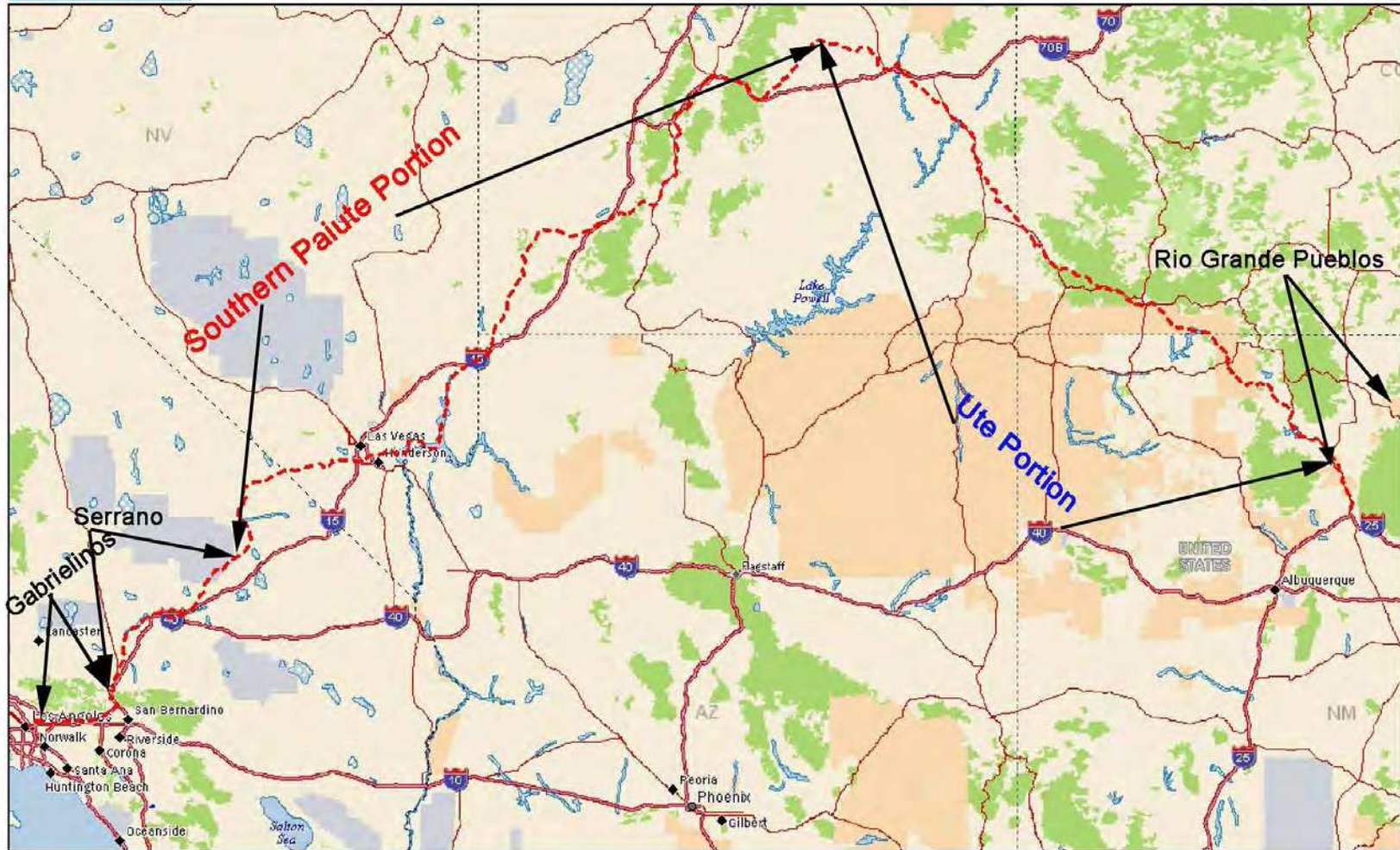
THE UTE TRAIL: SOUTHERN UTE

SITE BY SITE ANALYSIS

The various Indian peoples asked by the National Park Service and Bureau of Land Management to be involved in this study consistently stated their belief that the United States Congress erred in using the term Old Spanish Trail (OST) to describe the route taken by Mexican government-approved commercial pack train caravans from Santa Fe to California from 1829 to 1848. Indian people maintain that the various trails that were eventually braided together and used by these caravans were owned by Indian people. After many months of considering their participation in this study, the leadership of Taos Pueblo decided that the cultural affront from the name Old Spanish Trail was sufficient to prevent them from participating in the study. Indian people involved in this study do maintain that the United States Congress was correct in honoring the various trails by placing them on the National Register of Historic Places because they deserve to be respected by the people of the United States, as they are respected and honored by Indian people. So this chapter begins with a quandary that will not be resolved by hundreds of interviews and thousand of Indian words of testimony about the trails and the places along them. Indian people want their trails known and respected so land managers can treat the trails appropriately. Yet, Indian people simply despise the notion that their trails, which were to be used by caravans of non-Indian traders, are to be primarily understood from that short-term event (only twenty years in duration) and be forever mislabeled.

This is the first of two chapters in this report, which record and analyze the responses of Indian people sent by their tribal governments to identify and explain places along the official OST route. This chapter is focused on the portion of the OST that passes from the Rio Grande River up the Chama River, westward across the Colorado River at the Green River crossing, and to a point in central Utah near the modern town of Castle Dale where California bound caravans would abruptly turn to the south (Map 3.1). It can be argued that the trails involved in this large area were primarily used by the Ute people at the time of Spanish contact and for a considerable time before. Some Pueblo peoples, however, have argued that portions of the involved trails were established by their ancestors before the arrival of the Ute people in the area. This study cannot resolve this discussion.

Rio Grande Pueblo groups such as Taos and Santa Clara anchor the beginning of this trail discussion, but they have been discussed only briefly in order to respect their desire not to be formally involved in this study. Still it is essential to understand, based on available documents, these Pueblo's dual roles of being both the point of departure and return from California and places where trade events (fairs) occurred long before the Spanish arrived, during the Spanish and Mexican periods, and into contemporary times. Neither Pueblo formally participated in the study, but both recognize that the involved trails and trading were essential dimensions of their history.



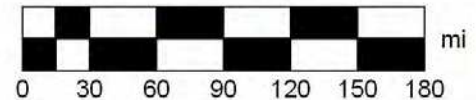
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Data Zoom 5-3

Map 3.1 Ethnic Affiliations along the OST

Beyond the Rio Grande River the trail is claimed by the Ute people, who are now formally organized into three large tribes – Southern Ute, Ute Mountain Ute, and Uintah-Ouray. Study funds permitted only the participation of the Southern Ute Tribe who refused to talk about traditional lands (largely those west of Hesperus, Colorado and extending to Castle Dale, Utah) that they say are best represented and discussed by the other two tribes. Both Ute Mountain Ute and Uintah-Ouray tribes have expressed an interest in participating in the study were funds to become available.

3.1 Numic Epistemology: Puha

To Numic speaking peoples, the universe is alive and everything is interconnected through all types of relations, what anthropologist, Roy Rappaport (1999:263-271; 446) calls the “the ultimate sacred postulate.” The concept of the living universe is so fundamental that any discussion of Southern Paiute and Ute culture and social structure cannot occur without it. The universe is alive in a similar way that humans are alive and the universe possesses most of the same characterizes as well. The universe has discrete physical components such as power and elements.

As explained by Liljeblad (1986: 643-644), power is everywhere and is “a source of individual competence, mental and physical ability, health, and success.” Power is often referred to as *Puha*. This concept is common among the different tribes throughout the western United States. Numic speaking people such as the Ute, Western Shoshone, Owens Valley Paiutes, and Northern Paiutes have similar words in their languages¹ and it is a fundamental principle of their epistemologies as well. Such a concept of power is not limited to Great Basin and Colorado Plateau peoples, it is also a fundamental epistemological principle the nearby Yuman-speaking peoples such as the Mojave, Hualapai, and Havasupai.

The five tenets of Puha need to be explained in order to understand the role it has in Southern Paiute culture. Puha is derived from Creation and permeates the universe, which resembles a spider web. Sometimes it is like a thin scattering; at other times, it occurs in definite concentrations with currents where there are clusters of life. Puha exists throughout the universe but it will vary in intensity from person to person, place to place, element to element, and object to object. This is similar to how strength differs among humans. Puha can also vary in what it can be used for and it determines the tasks certain elements (air, water, rocks, plants, animals) can do. Puha is networked; it connects, disconnects, and reconnects elements in different ways. This occurs because of the will of the elements that have the power. Puha is present in and can move between the three levels of the universe: the upper level- where powerful anthropomorphic beings live, the middle level- where people live now, and the lower live- where extraordinary beings with reptilian or distorted humanoid appearances live (Stoffle et al. 2001).

In his article, “Basin Religion and Theology: A Comparative Study of Power (Puha),” Miller (1983: 79-89) noted:

¹ Ute- *Puwavi*, Western Shoshone- *Puha* and *Poha*, Northern Paiute- *Puha*. The Chemehuevi and Southern Paiute are the same people with a common language. The word for *Puha* is the same.

Power is diffused everywhere in continuous flux and flow, which however, is not haphazard because, as an aspect of memory, power is rational. From all available evidence, the routes of concentrated power within generalized dispersion are web-like, moving both in radial patterns and in recursive concentric ones, out from the center and back again...The web image is reflected in the stories where Coyote assumes the form of a water spider to carry humans to land and Sun takes the form of a spider who is webbing the firmament of the universe...The web of power, however, is not static like that of a spider because the webbing actually consists of the flow of power rather than filaments per se. Rather, the web is pulsating and multidimensional, even having aspects of a spiral, some times regular and sometimes erratic, intersection with the radials from the center. This spiral movement is represented most graphically by an in-dwelling soul of a person that can be seen escaping the body at death as a whirlwind.

Puha, while operating in a dynamic equilibrium within the universe, is also entropic (Blackburn 1974; Bean et al.1972; Stoffle, Zedeño and Halmo 2001; White 1963). This means that over time, Puha has gradually diminished since Creation in quality, quantity, and availability. The reason for this is that man has at various times treated it improperly, and has failed in upholding his responsibilities in the relationship he has with the interdependent system. Indian people believe that a very rapid loss of Puha occurred after the European encroachment. Knowledge concerning how to regulate relationships with powerful elements was lost through the processes of colonization. Despite this, Puha is always retrievable in some form as long as new guidelines are established for obtaining and maintaining it.

In Southern Paiute and Ute culture, there are rules for handling Puha and powerful objects. These rules function to control the person with the Puha and prevent him or her from misusing it in one of two ways. First, power can only be used at proper times and in proper places and it must be used in accordance with standardized procedures such as preparation and pilgrimage to ceremonial areas. Secondly, people who have Puha and knowledge may withhold information on procedures for acquiring and maintaining power from uninitiated persons or persons who are deemed unworthy candidates. Stoffle, Zedeño, and Halmo (2001: 65) wrote; “the diversity and unpredictability of power was consistent with an ecosystem that was equally diverse and unpredictable, although often kind and bountiful in the resources provided by nature.”

3.2 The Old Ute Trail

The Ute discussions begin with a photo of Buckskin Charley, a Ute elder, who is praying before a trail-making ceremony in Colorado (Figure 3.1) and a photo (Figure 3.2) of Ute people coming down a trail in Colorado as part of a trail-making ceremony in 1912. Buckskin Charley stands with one arm partially raised while holding a ceremonial spear in his other hand, at the marking ceremony of the Ute Pass Trail, El Paso County, Colorado. He wears leggings, a fringed and beaded shirt, and a hair pipe choker. Native American spectators wear feather headdresses. In the second photo a procession of Utes on horseback ride the Ute Pass Trail. They wear headdresses and traditional clothing for the dedication of the ancestral route, which follows the Colorado Rocky Mountain Front Range into the mountains. These photos emphasize the

persistent ceremonial nature of trails and trail use. Trails were and are seen by Ute people as being made for them at Creation and as being alive and sentient. Here we see that in modern times, the Ute people continue to conduct ceremonies for their trails as a sign of respect and renewal. We can also view these images as complex public statements. Clearly the Ute people participating in this trail-making ceremony knew they were being observed by non-Indian people. To some extent, the Ute people permitted this ceremony to be observed in order to convey a message of importance and ownership to the rapidly increasing non-Indian population who were in 1912 continuing to modify Ute trails for other transportation functions.



Figure 3.1 Buckskin Charley Saying Prayers at the Beginning of the Ute Pass Trail Marking Ceremony (Courtesy of the Denver Public Library, Western History Collection, , H.S. Poley, P-1298)



Figure 3.2 Mounted Utes Coming Down the Ute Pass Trail
(Courtesy of the Denver Public Library, Western History Collection, H.S. Poley, P-133)

These graphic illustrations of Ute attachments to their trail are followed by a few quotes from an essay by James Goss, an Emeritus Professor of Anthropology and a respected scholar who has had a life-long connection with the Ute People. The essay was published in *Spanish Traces* (2003, Vol. 9, No. 3) as “Ute Indian Perspectives on the Old Spanish Trail: SINAWAVI MADE THE TRAIL” which is text from his keynote address for the Old Spanish Trail Association annual meeting. According to Dr. Goss’s keynote address:

The Utes have known the way from the continental divide in Colorado and New Mexico to California since their creation. Yes, the Utes ‘know the way to San Jose’. Their Myth explains the origin of the Colorado River system. It is Sinawavi’s Trail, Sinawavi’s River, Sinawavi’s Valley, Sinawavi’s Canyon, and it is Sacred and must be approached in a Sacred way. The Myth explains the need for a more circuitous route through and around the Colorado canyon country. Sinawavi made the trail and showed us the way. The way was rough and circuitous because of ‘First man’s’ and our own transgressions. But, it is a Sacred Way, mandated by deity (Goss 2003: 9).

The Utes know that the trail has been there for thousands and thousands of years. The Utes know that the trail was there before there was an 'Old Spaniard' (Goss 2003: 9).

The Ute people perpetuate a cognitive mapping of their lands and their trails. Amazing! They had even named the major geographical features in their own language, before the Europeans came and did it for them. And, as they have become bilingual, and even trilingual as alien languages have been imposed upon them, they have kept track of their Sacred names and Sacred Places. Their Sacred Landscape is still here. We should keep in mind that this is their trail and their ancestors were camping along it 10,000 years ago. 10,000 years of human stories are still a part of this trail. In a very real sense the Old People are still here, and they still have unfinished business here. They are kept alive by their children telling their stories along the trail. They are kept alive in Oral Tradition. And, oral tradition is worth something. Ten thousand years of oral tradition is probably the best part of the story of this trail. The Utes know something about this trail and this land. And we should listen to them. Documented, written history of the last 300 years is like the skin of an onion compared to 10,000 years legacy of the Utes and their ancestors (Goss 2003: 9).

Rivera's expeditions into Ute country in 1765 were guided interpretive and trading tours. Safe passage was guaranteed by Ute speaking guides...The Dominguez-Escalante Expedition of 1776 into the Ute heartland was a guided tour, led by Ute speaking guides. It was not a conquest. The 1779 de Anza Expedition into Ute country was to punish "Comanche raiders," not to conquer the Utes...In short, Ute lands and the 'The Old Spanish Trail' were never controlled by the Spanish colonial government (Goss 2003: 9-10).

It is important to the rethinking of the trail to note that the Spanish colonial government of New Mexico never owned or controlled this trail. The Mexican Republic never owned this trail. When the trail fell into disuse after 1848, it was still not controlled by the United States. It was still the Ute Trail through Ute Traditional Sacred Lands. The Utes had every right to decide whether they would extend safe passage to, trade with, exact tribute from, or punish trespassing aliens on their trail. They were a sovereign nation, by any definition. The trail is an Ancient Ute Trail through Ancient Ute Sacred Lands. Maybe rethinking of the 'Old Spanish Trail' should even include a name change. Credit where credit is due!(Goss 2003:10)..

Goss's full essay can be read and appreciated in its entirety in *Spanish Traces*, but these few quotes make a series of key points, or stipulations, that are repeated throughout this study. First, the trails used by the Spanish were old Indian trails, the trails were made for Indian people by the Creator, and Indian people retain their Creation-based rights and responsibilities associated with protecting and respecting these trails.

3.3 ABIQUIÚ

The following section on Abiquiú has been included in this report due to the importance of Abiquiú as the starting point for travelers on the OST. The information in this section is derived solely from published literature and has been written to give the reader a brief understanding of Abiquiú's role as a trading center before the establishment of the OST and its role as the starting point for travelers. This section is not meant to be an exhaustive study of the community at Abiquiú. A more thorough analysis of Abiquiú as well as ethnographic data from the community can be found in *Ethnohistoric and Ethnographic Assessment of Contemporary Communities along the Old Spanish Trail* (Stoffle, et al 2008).

The community of Abiquiú is located in the southeastern end of the Chama River Valley. It is approximately 24 miles from Santa Clara Pueblo and 48 miles from Santa Fe (See Map 3.2). Abiquiú has been the center of activity for Indian and non-Indian people for at least 10,000 years. Centuries before it became a Spanish (later Mexican) village, it was an American Indian village connected by hundreds of miles of trails. These trails went to places such as Hopi, traditional Ute territory, the Rio Grande Valley, and the Great Plains (Poling-Kempes 1997).

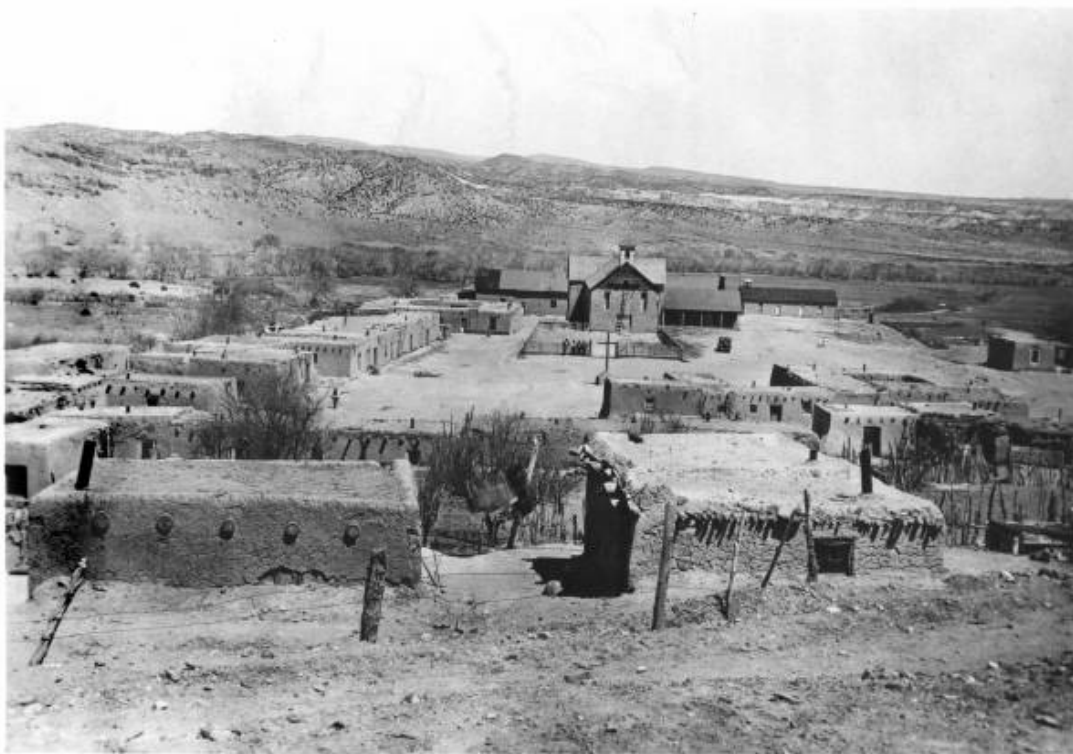


Figure 3.3 Plaza at Abiquiú
(Parkhurst, T. Harmon, Courtesy Palace of the Governors (MNM/DCA), neg. #013698)

The Hispanic village of Abiquiú was built directly on top of the remains of the old prehistoric pueblo, P'efu. This pueblo was home to the Asa people, ancestors of the contemporary American Indian people in the region. It is believed that they lived in the Abiquiú area until some time in the 16th century when drought, warfare, and the spread of Old World Diseases caused population loss and rendered the environment unusable. The Asa people sought

refuge in other areas; some joined relatives at the Rio Grande Pueblos of San Juan and Santa Clara. Others traveled southward to Santo Domingo and others traveled south and west to Acoma and Zuni Pueblos. Most of the pueblo population relocated to First Mesa at Hopi and they are the ancestors of Hopi clans who settled with the Badger Clan at the village of Awatobi. According to Hopi oral tradition, the Asa people came from a far away village called Kaekibi and it places the arrival of the people from the Chama Valley just prior to Hopi's first contact with the Spanish (Poling-Kempes 1997).

After Spanish contact, Hopi added another dimension to its connection to Abiquiú. In 1742, three Franciscan friars traveled to Hopi and convinced 350 pueblo citizens to leave Hopi land and follow the padres to missions established in Jemez and Isleta. Among the 350 people, 24 were descendants of Asa and were allowed to resettle the old Indian Pueblo at Abiquiú (Poling-Kempes 1997).

Geology and Ecology

The Chama River Basin is a broad shallow basin along the eastern margin of the Colorado Plateau in the transition zone between the Plateau and the Rio Grande Rift (see Figure 3.5). The region's geologic features are characteristic of the Four Corners Region of the Southwest. The deep canyons and erosion-carved sandstone formations become increasingly frequent as one travels up the river valley where the formations eventually become sheer walls, rugged cliffs, spires and stone chimneys.

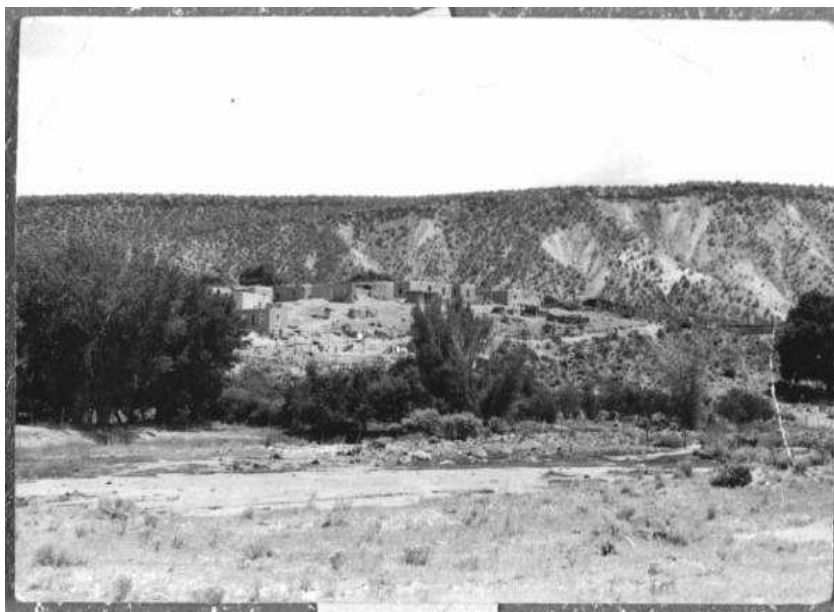


Figure 3.4 Abiquiú
(Courtesy Palace of the Governors (MNM/DCA), neg. #008555)

The Colorado Plateau has been a relatively stable massif in the Earth's crust for at least 600 million years. Consequently the rocks in the Abiquiú region are generally flat-lying and with broad-scale folding and localized faulting with stratigraphic offsets of less than 120 feet. The broadly downwarped Chama Basin formed during compressional Laramide deformation starting

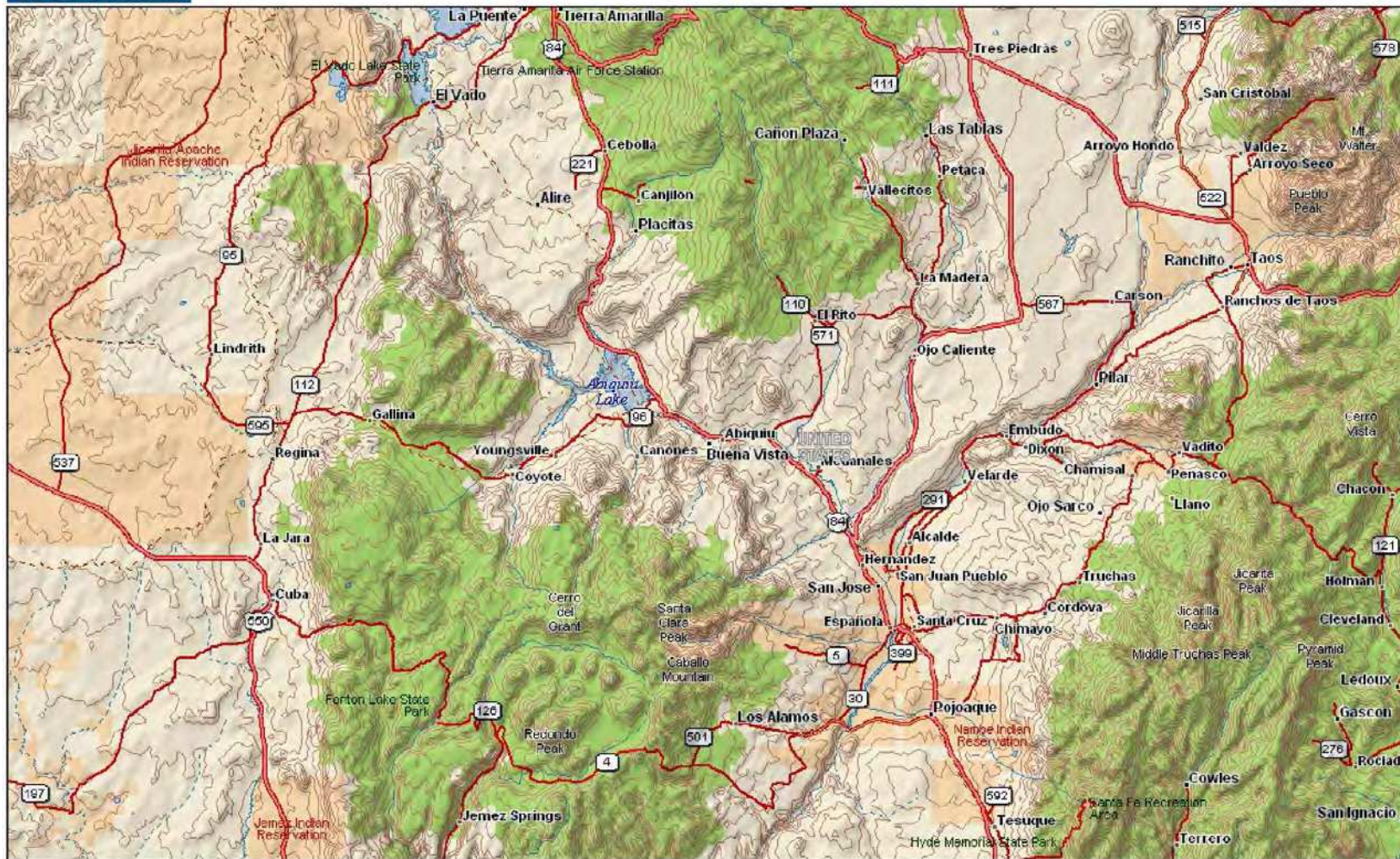
about 75 million years ago (Cather 2004). The northeast-trending normal faulting associated with the development of the Rio Grande rift is an extensional feature that approximately parallels the course of the Rio Grande between central Colorado and west Texas and it began affecting the area about 26 million years ago. Along the Rio Chama, the canyon walls rise 1,500 feet above the river. The canyon rim and sloping uplands are frequently punctuated by steep sandstone and shale outcroppings. Inside the canyon are numerous escarpments consisting of rock slides, ledges, pinnacles and ridges. The bedrock of Chama Canyon is shale, basalt, tuft, sandstone, granite, and quartzite.



Figure 3.5 Geologic Features Near Abiquiú

Ecologically, Abiquiú is found in the Great Basin Conifer Woodland biotic community. This community, with its evolutionary center in the Great Basin, is found throughout the Southwest, Texas, and Baja California. It is a cold-adapted woodland that is known for the unequal dominance of piñons (*Pinus* spp.) and junipers (*Juniperus* spp.). It is also common to find dense stands of ponderosa pine (*Pinus ponderosa*), Douglas-fir (*Pseudotsuga menziesii*), mountain-mahogany (*Cercocarpus* spp.), Gambel oak (*Quercus gambelii*) and serviceberry (*Amelanchier* spp.). In riparian areas, cottonwoods (*Populus* spp.), box elder (*Acer negundo*), willows (*Salix* spp.), hackberry (*Celtis* spp.), and numerous shrubs that are indigenous to north-central New Mexico are found (Brown 1994).

In the Abiquiú area, a variety of wildlife can be found such as cougars, black bears, elk, mule deer, badgers, bobcats, coyotes, beavers, and raccoons. Numerous kinds of birds are also found such as ducks, spotted sandpipers, turkeys, golden eagles, bald eagles, falcons, hawks, owls, turkey buzzards. In addition, various species of rattlesnakes and copperheads are found in the adjacent mountain valleys and canyons.



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MN (9.7° E)

Map 3.2 The Abiquiú Region



Data Zoom 8-0

A Genizaro Community

Abiquiú was established for the purpose of being a genizaro community. Genizaros were Indian people who were captured and ransomed by the Spanish government. They were distributed amongst the colonists and became domestic servants and laborers. They were given Christian names and were instructed in the ways of the Catholic Church. Many were mistreated by their owners and became apostates. Other genizaros (with the support of the Franciscans) were granted permission to establish communities along the northern frontier. Genizaro communities were located on the fringes of European and Mexican settlements. They formed an important barrier between the colonial farmers and the Indian people who lived outside the boundaries of northern New Mexico (Simmons 1979).

Abiquiú as a Trading Center

Trade between Spanish settlers and American Indian tribes was illegal; except at officially licensed trade fairs. The governor's officials from Santa Fe and Santa Cruz oversaw these fairs. Abiquiú's trade fair rivaled Taos in size because the trade fair at Abiquiú was the preferred and closest trading location for the Utes. The Utes' primary interest in partaking in activities at Abiquiú was to obtain horses from particular horse breeders.

Traders from the Plains tribes were invited to both fairs and they brought buffalo hides, pelts, chamois, meat, fat, tallow, deer, and antelope skins. The Utes traded dried deer and buffalo meat, but it was their tanned hides that people desired the most. One of these hides could be traded for a good horse or two hunting knives at the Abiquiú fairs (Poling-Kemps 1997).

At the Abiquiú trade fair, the Indian people sought the settlers' cotton blankets, pottery, corn, stones, such as turquoise, metal tools and objects. Sometimes the Indian people would seek to pay a ransom of those being held prisoner by the Spanish. In 1776, Father Dominguez witnessed one of the trade fairs at Abiquiú. He noted:

Every year, between the end of October and the beginning of November, [members] of the Ute Nation come to the vicinity of this pueblo. They come very well laden with good deerskins and they celebrate their fair with them. This is held for the sole purpose of buying horses. If one is much to the taste and satisfaction of an Indian (the trial is a good race), he gives fifteen to twenty good deerskins for the horse; and if not there is no purchase. They also sell deer or buffalo meat for maize or corn flour. Sometimes there are little captive Indians (male or female) as with the Comanches, whom they resemble in the manner of selling them. They usually sell deerskins for belduques [knives] only, and they are given two of the latter for one of the former. With the exception of firearms and vessels, the Utes sell everything as described with regard to the Comanches, but they are not so fond of trading as has been said of the latter (Adams and Chavez 1975: 252-253).

When the trade fairs ended, the governor's men returned to the capital, and illegal trading with the Utes would occur throughout the winter, spring and summer beyond the government's

control. Trade into Ute territory occurred throughout much of the 1700s, however the first documented case of illegal trade appeared on record in 1783. Eleven Abiquiú traders were apprehended with supplies of corn, wheat flour, tools, biscuits, tobacco, horses, and mules (Works 1992).



Figure 3.6 Abiquiú
(Courtesy Palace of the Governors (MNM/DCA), neg. #013697)

Abiquiú and the Old Spanish Trail

When Mexico gained its independence in 1821, there was a loosening of trade restrictions between New Mexican traders and those from the outside territories. Under the first decade of the Mexican government, there was a rise in commercial activity between New Mexico and American traders. Given how lucrative this activity was, New Mexican merchants expanded their focus by establishing a trade route to California. Many attempts were made during the Spanish period to link Northern New Spain and California, but Indian people met those attempts with strong resistance. By the time the OST officially opened for trade in 1829, constant conflict, encroachment, and disease had taken their toll and it had created a situation in which travel to California became possible.

When the OST opened, trade from the Chama Valley expanded. There was a demand for woolen goods and materials from New Mexico in exchange for horses from California and western Mexico. Abiquiú developed into an important center of activity. The main exports from Abiquiú included live sheep, sheepskins, wool, piñon nuts, and products obtained from the Ute trade, such as animal hides, Indian blankets, and dried meats (Works 1992).

3.4 SANTA CLARA PUEBLO

The following section on Santa Clara Pueblo has been included in this report due to its importance as a stopping point for travelers on the OST. Santa Clara Pueblo declined to formally participate in this study but recognizes that the involved trails and trading were essential dimensions of their history. The information in this section is derived solely from published literature and has been written to give the reader a brief understanding of the Pueblo's role as a trading center in pre-Spanish times to establish a background for understanding the Pueblo's role in the OST. This chapter also discusses the Pueblo's ties to the Santa Fe Trail, which was in operation prior to, during and after the Old Spanish. This information has been included to discuss another factor in the establishment of the OST and to connect the OST as part of a larger network of trails that stretched across the United States. This section, however, is not meant to be a thorough analysis of these topics.

The Santa Clara Pueblo is approximately 2.5 miles south of Espanola and 27 miles northwest of Santa Fe (see Map 3.3). It is located immediately to the west of the Rio Grande River and 10 miles east of the Puyé cliff dwellings. The Pueblo is part of the six Northern Tewa-speaking Pueblos, which consists of San Juan, San Ildefonso, Nambe, Pojoaque and Tesuque. Santa Clarans have ancestral ties to the cliff dwellings as well as other abandoned pueblo sites in the Pajarito Plateau even though these sites were recorded as abandoned at the time of the Spanish contact (Hill 1982).



Figure 3.7 Santa Clara Pueblo
(Dorman, H.H., Courtesy Palace of the Governors (MNM/DCA), neg. #004214)

The early role of the Pueblo as a site along the OST was recorded during the Dominguez-Escalante expedition of 1776. The expedition made their first stop at Santa Clara, noting only that “[We] set out from the Villa de Santa Fe, capital of this kingdom of New Mexico, and at the end of nine leagues arrived at El Pueblo de Santa Clara, where we spent the night” (Dominguez and Velez de Escalante 1776: 5). While this entry lacks a descriptive account of the Pueblo, it does serve to illustrate the Pueblo’s location on the trail.

Geology and Ecology

Santa Clara Pueblo is located in an area known as the Santa Fe Group, which consists of tertiary deposits caused by the Rio Grande Rift, a break in the Earth’s crust that started 30 million years ago. The Group’s contents vary depending on the type of sediment that eroded and by the presence of nearby volcanic ash or lava flows. The area south of Espanola, the badlands or barrancas, formed due to the high amounts of volcanic ash. This ash is attributed to eruptions from the Jemez Mountains and others to the west. The badlands consist primarily of ash, pinkish-sandstone, and caliche. Finally, the fossils of extinct mammals such as ancestral horses, deer, bears, and camels are found in sandy and silty deposits (Chronic 1987).

Ecologically, the Santa Clara Pueblo is part of a small pocket of Great Basin grassland, which extends northwest to Abiquiú, northeast to Embudo, southeast to Tesuque Pueblo and southwest to San Ildefonso Pueblo. Surrounding this grassland is Great Basin conifer woodland as well as the Jemez Mountains to the west, Santa Fe Mountains to the east, Sangre de Cristo Mountains in the northeast and the San Juan Mountains to the northwest. Grasses that often occur within Great Basin grassland biomes are: Gramas (*Bouteloua* spp.), Buffalo-grass (*Buchloe dactyloides*), Indian Rice Grass (*Oryzopsis hymenoides*), Galleta Grass (*Hilaria jamesii*), prairie junegrass (*Koeleria cristata*), plains Lovegrass (*Eragrostis intermedia*) and Vine Mesquite Grass (*Panicum obtusum*). In addition to grasses, several shrubs also occur such as four-wing saltbush (*Atriplex canescens*), sagebrush (*Artemisia* spp.), winterfat (*Ceratoides lantan*), wild rose (*Rosa*), cholla (*Opuntia* spp.), soapweed (*Yucca glauca*), prairie sumac (*Rhus copallina* var. *lanceolata*) rabbitbrush (*Chrysothamnus*), and snakeweed (*Gutierrezia*). For over a century, fire suppression and over-grazing have resulted in the introduction of junipers, (*Juniperus monosperma*, *J. scopulorum*, *J. osteosperma*) as well as the disappearance of some of the above species in certain areas (Brown 1994).

The Pueblo is found in the Upper Sonoran Life Zone. Vegetation is often sparse in these areas and is dominated by cacti, yucca, desert shrubs and short grasses. In areas of more moisture, piñon pines, junipers and grasses occur. The area tends to receive ten inches of annual rainfall with most of the precipitation occurring from mid-July to mid-September. Temperatures at the Pueblo range from 29.3 F in January to 72.2 F in July (Hill 1982).

Santa Clara and Trade

Traditionally, the people of Santa Clara Pueblo were largely self-sufficient and did not rely on trade for their community’s subsistence goods. When trade at Santa Clara did occur, religious leaders oversaw the exchange of ceremonial or luxury items. Luxury items obtained

through these exchanges often elevated one's status and the very experience of trading and interacting with other groups heightened a person's reputation (Hill 1982).

While the Pueblo lacked the necessary surpluses to make extensive trading possible, their physical location allowed them to serve intermediaries between the Plains Indians and the northern and southern Pueblos. Arnon and Hill noted that "Due to their northern location, Santa Clarans acted as middlemen for the more southern Pueblo villages by disseminating desirable Plains goods such as buffalo robes and deer hides" (Arnon and Hill 1979: 305). Additionally, pipe pouches, tortoise shells, parfleches and pemmican were brought by the Plains tribes in exchange for wheat, bread and woven goods (Arnon and Hill 1979).



Figure 3.8 Harvest at the Pueblo
(Courtesy Palace of the Governors (MNM/DCA), neg. #004128)

During the Spanish period, trade fairs brought many Pueblos into contact with both Plains Indian traders as well as early Spanish colonists. Sanchez illustrates the Ute's role in these fairs when he noted that,

Early Spanish contact with the Utes most likely occurred uneventfully at the yearly trade fairs in Taos, Picuris, or even Pecos. New Mexican frontiersmen easily could have met Ute traders when they came to trade with the Rio Grande Pueblos- these included San Juan, Santa Clara, San Ildefonso, and Pojoaque (Sanchez 1997: 9).

By the late 18th century, trade fairs were being held and regulated by the Spanish Colonial authorities in places such as Abiquiú in 1776 and Santa Clara in 1791. These trade fairs further established relations between tribes from Colorado and the Pueblos in New Mexico. The

fairs also increased the amount of integration of Spanish material culture into the various Indian groups who participated at the fairs (Wroth 2001).

Ties to Santa Fe Trail

The importance of Santa Clara as a trading location extended beyond their central location between the southern tribes and the American Indian groups to the north. Being only 27 miles from Santa Fe, the people of Santa Clara had access to goods coming from the east via the Santa Fe Trail². The beginning of the Santa Fe Trails coincides with Mexican independence in 1821 (Bancroft 1962).



Figure 3.9 Travelers along the Santa Fe Trail (Courtesy of New Mexico Magazine <http://www.nmmagazine.com/NMGUIDE/memorias4.html>)

Edward Dozier made a concise assessment of the trail and its relative importance to New Mexico and the Pueblos. He wrote:

William Becknell of Franklin, Missouri is generally credited with laying out the route and officially establishing trade with Santa Fe in 1822. The Santa Fe trade had a tremendous impact on New Mexico. It made possible for Hispanos and Pueblos to share in the variety of goods brought from the east of the Mississippi and provided as well an outlet for their own products. Santa Fe became a

² For an in-depth discussion of trade dynamics along the Santa Fe Trail, see William Patrick O'Brien, *Independence, Missouri's Trade with Mexico, 1827-1860: A Study in International Consensus and Cooperation*. Ph.D. dissertation, University of Boulder, 1994.

redistribution center; a considerable amount of the products received from the East went south to California and Chihuahua...For over half a century, the Santa Fe Trail brought a tremendous amount of products to New Mexico. These goods were largely manufactured products that were exchanged for hides, skin and wool. The coming of the railroads in the latter part of the nineteenth century eventually stopped the trade over the famous trail (Dozier 1970: 102).

The Santa Fe Trail had a tremendous impact on the types of goods being traded in New Mexico and Colorado as well as influencing the level of demand for goods produced or purchased by Native Americans.

The Santa Fe Trail's importance would eventually extend beyond trade and aid in the expansion westward. Sanchez stated:

The Santa Fe trail became a feeder route for one of the many trails west that were developing with the westward expansion of the United States. Santa Fe, Taos, Santa Cruz de la Canada, Chama and Abiquiú were centers for Spanish traders and Anglo-American mountain men (Sanchez 1997: 121).

The Santa Fe Trail helped bring traders, trappers, and migrants who started in Missouri to Santa Fe where they could then continue westward on the OST by way of Santa Clara Pueblo.

Before the official opening of the OST, trade with Santa Clara was largely conducted between Plains tribes such as the Comanche, Kiowa, and groups from the north such as the Utes. Direct trade with Hopi and Zuni occurred infrequently but goods from those groups as well as the Navajos often made their way to Santa Clara where they were then distributed to other Pueblos and the Plains groups. Plains groups would frequently come Santa Clara seeking Old World introductions such as wheat in exchange for hides and meat.

While Santa Clara largely traded only with other Native American groups, they were affected by the influx of goods from the east brought by traders along the Santa Fe Trail and were also apt to incorporating woolen goods from groups to the west as well as introduced crop into their trading stock. Their central location, as well as their good relations with the Comanche's and the Utes made them an ideal trading partner for many of the Indian groups in north-central New Mexico, as well as Colorado, Arizona and parts of Oklahoma and Kansas.

3.5 TAOS PUEBLO

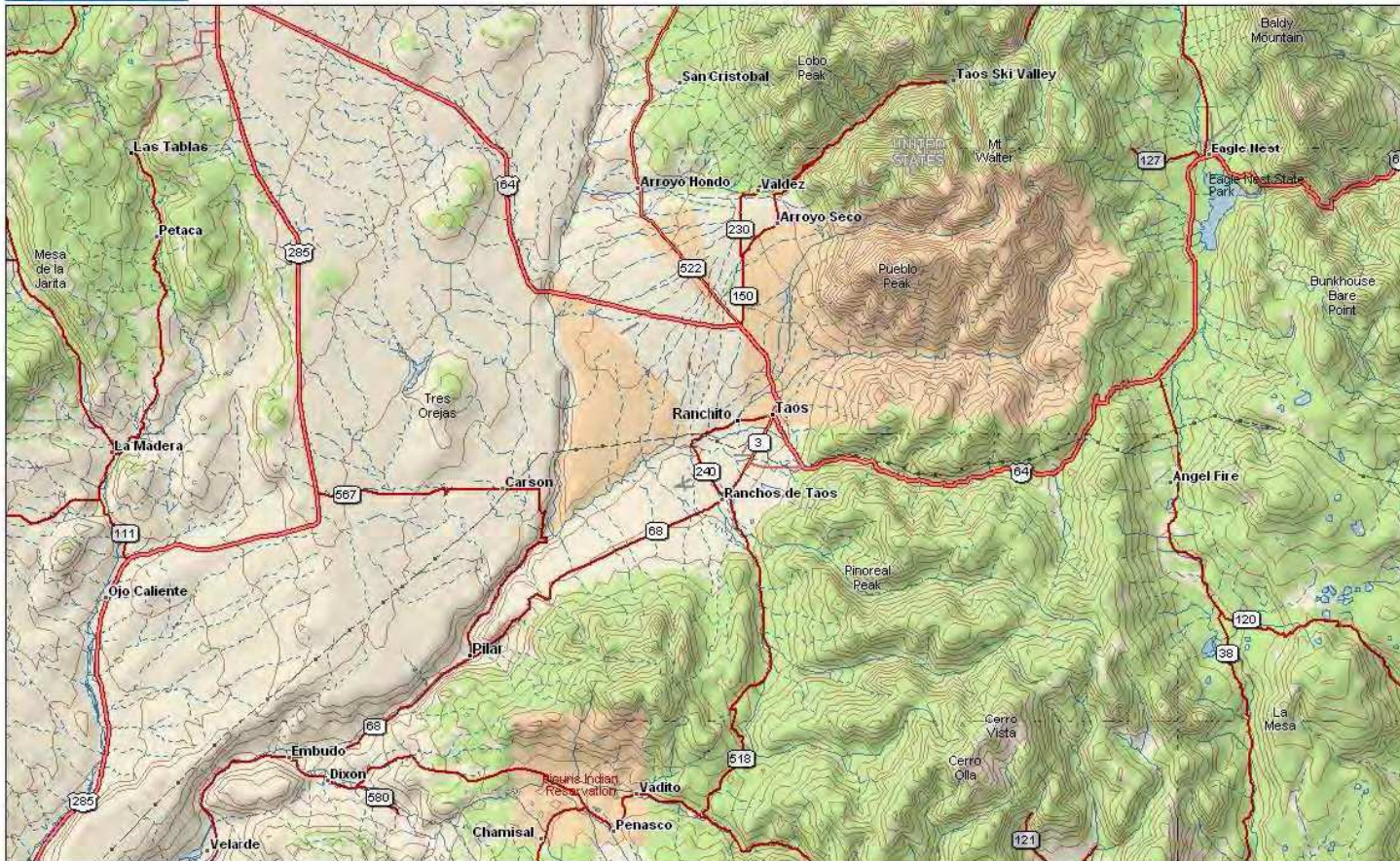
The following section on Taos Pueblo has been included in this report as stipulated in the SOW. The Pueblo decided not to formally participate in the study in part due to the term “The Old Spanish Trail” which has been applied to what they see as a network of preexisting Indian trails, which were either created by Indian people or at Creation. Despite their decline to participate formally in this study, Taos recognizes that the involved trails and trading were essential dimensions of their history. Therefore the following section, which is derived solely from published literature, has been included to inform the reader about Taos’ role as a trading center and to describe its relation to the OST, however it is not meant to be an exhaustive study of the community.

Taos Pueblo is located 75 miles northeast of Santa Fe and 62 miles south of San Luis, CO (See Map 3.4). Taos is the northernmost Indian Pueblo and it has been continuously inhabited for thousands of years thus making it one of the oldest continuously occupied spaces in North America. Traditionally, Taos was the center of trade for other Pueblo groups and people from the Great Plains.

The first European to enter the Rio Grande Valley near Taos was Don Juan de Oñate in 1598 (Works 1992). The Pueblo is present on Escalante’s 1776 map of the area and consistently present on maps throughout the following centuries, such as Disturnell’s 1847 map, and the 1903 General Land Office map. The present name of the Pueblo comes via Spanish from an altered Tiwa name, “To-wi.” The name in the Taos language is “Tüotá” and means “red willow place” (Cassidy 1949:60). Due to its location and distance from the other Pueblos, Taos remained less influenced by the Spanish than other Pueblos in the region (Dominguez 1956).



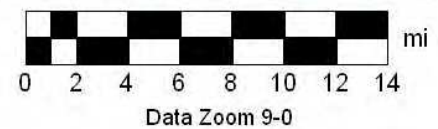
Figure 3.10 Taos Pueblo
(Parkhurst, T. Harmon , Courtesy Palace of the Governors (MNM/DCA), neg. #004565)



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Map 3.4 The Taos Region

Geology and Ecology

In the Taos region, the boundary between plains and mountains is abrupt, defined by high, near vertical cliffs, and thus placing it at the edge of two vastly different landscapes. To the west is the Taos Plateau, which is generally flat except for some low hills and the deep gorge of the Rio Grande. The Taos Range of the Sangre de Cristo Mountains towers over the Pueblo to the east. To the south are the Picuris Mountains, which extend westward as a branch of the Sangre de Cristo Mountains.

The Taos region is a unique combination of geologic features such as mountains, valleys, and volcanoes that attest to a long and complex geologic history. The Taos landscape has changed dramatically during the last two billion years. The landscape's past shaped the Precambrian mountain belts, shallow tropical seas, vast sand-dune deserts, extensive white sand beaches, and muddy meandering rivers bordered by lush fern forests. Most recently, the Taos region and the rest of the Rio Grande Valley was punctuated by periods of volcanic activity. Beneath the Taos plateau is an enormous rigid uplifted surface that is 20 miles across, and several miles deep known as the Rio Grande Rift. It stretches over 800 miles from Northern Mexico, Texas, New Mexico, and half of Colorado. Geologically this area is active, as indicated by the occurrence of earthquakes and the presence of chambers of molten rock. Evidence of past seismic and igneous events is visible from most anywhere in the Taos area, including young fault scarps where the mountains meet the plains, and the abundance of volcanoes and basalt flows on the plateau (New Mexico Bureau of Geology and Mineral Resources 1999).

The Pueblo of Taos is located in the Great Basin Scrubland Biome. This biome is characterized by plants such as sagebrush (*Artemisia* spp.), winter fat (*Ceratoides lanata*), rabbitbrush (*Chrysothamnus* spp.), blackbrush (*Coleogyne* spp.), hopsage (*Grayia* spp.) and horsebrush (*Tetradymia* spp.). Greasewood (*Sarcobatus vermiculatus*), four-wing saltbush (*Atriplex canescens*), and New Mexico forestiera (*Forestiera neomexicana*) occur near sources of water (Brown 1994). Generally, the elevation for this biome rests between 1,200m and 2,200m and receives 250mm annual rainfall.

Taos as a Trading Center

Taos has had a long-standing history as a trading center on the upper Rio Grande because it is centrally located with groups living to the north and east. This portion of the upper Rio Grande Valley provides travelers with easy access to the Rocky Mountains and the basin-and-range province through the San Luis Valley, and the Great Plains via mountain passes to the east of the Pueblo.

When Don Juan de Oñate and several hundred Spanish settlers entered the region in 1598, he noted that there was active trade occurring between Pueblo people and neighboring Indian peoples (Works 1992). Early Spanish records documented that trade took place at three Pueblos, Pecos, Picuris, Taos (Works 1992). The Pueblo trading centers were an important part of maintaining relationships between Pueblo groups and their neighbors. Plains groups exchanged hides and dried meat for food and ceremonial items. By taking part in this exchange relationship, the Plains groups granted access to Pueblo territories to spend the winters. This was documented by Ford (1983: 712) in his essay on inter-Indian exchange:

Explorers to the Southwest were impressed by the amount of trade they witnessed and the distances walked by Indian traders. On the eastern periphery contrasting adaptations brought Plains nomads with buffalo hides and dried meat to Taos, Pecos, and the Piro Pueblos where they obtained corn, cloth, and turquoise, and where they sometimes wintered. Ford also stated that Indian traders traveled great distances to obtain important goods and services. It was not uncommon for traders to travel to Mexico to obtain parrot and macaw feathers to or to coastal areas to obtain marine shells.

Ceremonial items were commonly exchanged between Indian groups. For example Picuris provided Taos and San Juan with ceremonial plants and San Juan provided Taos and Picuris with gourd rattles. Taos was noted for trading Indian tobacco leaves to the other Rio Grande Pueblos. Songs and ceremonies were also exchanged between groups. Sometimes, Taos depended upon Ute medicine men for doctoring and it is also noted that Taos obtained the Ute Dog Dance (Ford 1983).

Throughout the 17th and 18th centuries Taos continued to be an important trading center for Indian people. Despite European encroachment, Taos and the Utes were able to maintain their trading relationship, however, after the 1680 Pueblo Revolt, the Comanches became active traders at Taos (Works 1992). Comanche traders were attracted more toward the location of Taos and the mountains than the more southerly Pueblo of Pecos. As a result, Taos rose in importance and eventually replaced Pecos as the principal trading center in the region.



Figure 3.11 Apache Traders at Taos
(Dorman, H.H. , Courtesy Palace of the Governors (MNM/DCA), neg. #082410)

After reconquest, the Spanish wanted to strictly control Spanish-Indian interactions and heavily regulate trade with the Pueblos, Utes, Comanches, as well as other Indian groups. Spaniards attempted to ban interactions with non-Christianized Indians of specific merchandise. These attempts were futile because illegal interactions occurred frequently. As a way to profit and gain materials from the Indian communities, the Spanish colonial government entered trading markets. It was hoped that in addition to material gain, the Spanish would establish peaceful relations with the other tribes (Bodine 1979).



Figure 3.12 Taos Public Market and Plaza
(Courtesy Palace of the Governors (MNM/DCA), neg. #035357)

The colonial government set up trade fairs at three locations, Abiquiú, Pecos, and Taos. The annual trading fairs were officially licensed by the government and were overseen by government officials. The fairs drew Hispanic, Pueblo, and Apache traders, as well as French traders from the plains and merchants from Chihuahua (Works 1992). An important aspect of the Taos fair was that it occurred immediately before the Spanish caravan left New Mexico for Chihuahua (Bodine 1979). By the 1730s, the Comanches had officially taken over trade at Taos and by 1750 they had pushed some Apache traders south of Albuquerque (Works 1992).

Taos as a Trailhead

Taos was a starting point for travelers heading north into the San Luis Valley and for those travelers heading west to California. Taos was located on the northern branch of the OST, which passed through the San Luis Valley before heading west to Gunnison, Colorado and into Utah and southwestward to California. The first recorded expedition to California using the

northern branch of the OST occurred in 1830 by William Wolfskill and his partner Ewing Young. H.D. Barrows. The son-in-law of Wolfskill described the journey:

Last of Sept., 1830, the party, with Mr. Wolfskill at its head, left Taos for this then far off Territory of California. They came by a route farther north than that usually adopted by the Spaniards in traveling between California and New Mexico-their objective being to find beaver. They struck the Colorado just below the mouth of the Dolores, at the head of the “great Cañon,” where they crossed; entering the Great American Basin, striking the Sevier; thence southward to the Rio Virgin, which they followed down to the Colorado; thence descending the Colorado to the Mohave; where they hoped to obtain some provisions of which they were in want, and also to find beaver. From there they took across to the sink of the Mohave River, through the Cajon Pass to San Bernardino, and finally to Los Angeles, where they arrived in February, 1831 (Hafen 1948).

A decade later, this trail to California acquired a new use. Homesteaders making their way to California began using the trail. William Workman and John Rowland and their families undertook this overland voyage. The two men were forced to leave New Mexico after it was suspected that they were sympathetic to the Texas plan to annex all New Mexican land east of the Rio Grande. Workman and Rowland, in an effort to quickly sell out of their stock of whisky and leave for California, cut the price of the alcohol by half. This caused much complaint by fellow distiller Simeon Turley, known to many as Captain Whisky, who worked out of Taos (Hafen 1948; Reséndez 2002). Turley’s distillery was one of several built in Taos in the 1830s as the area emerged as an important supply center that served Hispanic and Indians people in the area (Reséndez 2002).



Figure 3.13 Kit Carson’s Home at Taos
(Parkhurst, T. Harmon, Courtesy Palace of the Governors (MNM/DCA), neg. #007133)

Taos and Rebellions

The people of Taos were present in every attempt to rid the region of European intruders (Bodine 1979). The first instance was the Pueblo revolt of 1680, which was lead by Popé , a man from San Juan Pueblo. He, with the help of three other men, Catiti, Tupatu, and Saca made their headquarters at Taos and lead a revolt against the Spanish (Folsom 1973). Nearly 160 years later, the people of Taos joined forces with the people of Chimayo to rebel against their Mexican rulers. The uprising was quickly subdued. Only 10 years later, however, the Taosenos, with help from the Mexicans, rebelled against American rule (Cassidy 1949).

In 1846, during the period of the Mexican-American War, the leader of the west, General Kearny, sent an officer, Lt. Emory, to meet with the Pueblos in order to assure their loyalty to the Americans. Emory reported that the Pueblos considered the Americans to be friends. In January of 1847, a group of Pueblos, including Taos, and a group of Mexicans revolted and stormed the Taos Pueblo Church. Once there, the governor, Charles Brent was killed and scalped along with several other officials. The rebels were surrounded by and surrendered to American General Price and his troops (Bodine 1979). The Taos Rebellion was an important event in the creation of communities along the OST in southern Colorado in both oral history and bibliographic sources. As told by one of his descendents, John Albert escaped from the Taos Rebellion and based on this experience, eventually settled in the San Luis Valley area, where his family remains today. For more information, see the *Ethnohistoric and Ethnographic Assessment of Contemporary Communities along the Old Spanish Trail* (Stoffle et al. 2008).

3.6 Southern Ute Site-by-Site Summary

The following sections in this chapter presents the Southern Ute site descriptions and analysis. During the Ute portion of this study, 5 sites were visited by 6 representatives from the Southern Ute Indian Tribe. The following table (3.1) details the chronology of fieldwork and number of interviews by site. Sixteen interviews were completed with Southern Ute representatives.

Date	Sites	Number of Interviews
<i>December 7, 2006</i>	Crossing of the Los Pinos	2
<i>March 15, 2007 June 5, 2007</i>	Ridges Basin	8
<i>June 5, 2007</i>	Hesperus-La Plata River	2
<i>March 15, 2007 June 6, 2007</i>	Carracas Crossing	3
<i>June 6, 2007</i>	Water Hole Rock	1
Total	5	16

Table 3.1 Chronology of Field Work and Number of Interviews

3.7 THE CARRACAS CROSSING

The Carracas Crossing is located along the San Juan River as it flows into the nearby Navajo Lake Reservoir less than 2 miles north of the Colorado-New Mexico boarder (See Map 3.5). It is an attractive riverine oasis that was visited and used for hundreds of years by the Utes. During the time of the OST caravans, it became an excellent stopping point because it provided a shallow crossing in the otherwise deceptively deep and fast moving San Juan River. In addition to being shallow, large areas of grass capable of feeding the caravan's horse herds twice a year surround the river.



Figure 3.14 The San Juan River as it Flows through the Carracas Crossing

Geology and Ecology

The San Juan is a fast moving river whose depth increases greatly towards its center, giving it a v-shape below the surface. Its headwaters are located in the San Juan Mountains, north of Pagosa Springs near South River Peak. The river winds through the mountains, then flows southwest directly through Pagosa Springs, and continues that heading through Carracas Crossing. Past the Crossing, it joins the Piedra River, and flows into the Navajo Lake Reservoir. At the southwestern portion of the reservoir the river heads west through New Mexico where it is joined by the Animas and La Plata Rivers near Farmington. West of Farmington, it heads slightly north, intersecting the Mancos River as it travels into Utah and eventually flows into the Colorado River.

Ecologically the crossing is a riverine oasis located in a slight valley. This valley is situated between two biomes as illustrated in Figure 3.15. Large cottonwoods (*Populus* spp.) and lush grassy meadows dominate the oasis. In addition, Indian ricegrass (*Oryzopsis hymenoides*), tansy mustard (*Descurainia pinnata*), needle grass, cattails, willows (*Salix* spp.), three-leafed sumacs (*Rhus trilobata*) and thistle (*Cirsium* spp.) also populate the community. This community is illustrated in Figure 3.15 by the green belt of trees directly above the river. The area north of the river is described ecologically as the Great Basin Scrubland Biome. This biome is characterized by sagebrush (*Artemisia* spp.), winter fat (*Ceratoides lanata*), rabbitbrush (*Chrysothamnus* spp.), blackbrush (*Coleogyne* spp.), hopsage (*Grayia* spp.) and horsebrush (*Tetradymia* spp.). Greasewood (*Sarcobatus vermiculatus*), four-wing saltbrush (*Atriplex canescens*), New Mexico forestiera (*Forestiera neomexicana*) occur in the waterways (Brown 1994). Generally, the elevation for this biome rests between 1,200m and 2,200m and receives 250mm annual rainfall.



Figure 3.15 Location for the Carracas Crossing

The second biome is the Great Basin Conifer Woodland, which occurs in the hills south of the crossing, heading into New Mexico. Sagebrush (*Artemisia* spp.), piñons (*Pinus* spp.) and junipers (*Juniperus* spp.) dominate this community. This biome tends to occur between 1,500m and 2,300m with an annual rainfall ranging from 250mm to 500mm (Brown 1994).

Summary of Interviews

Southern Ute tribal representatives were interviewed by UofA ethnographers at this site. During the interviews, tribal representatives discussed the use and meaning of the Carracas Crossing and how it was impacted by movement along the OST.

Southern Ute Tribe	Male	Female	Total
Southern Ute Representatives	2	0	2
Total	2	0	2

Table 3.2 Interviews on Carracas Crossing

Native American Comments

Traditional Uses of Carracas Crossing

When asked, “Would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- *If anything they came out here to hunt and gather. I don't think they held any religious ceremonies out here; not like the Sun Dance or a Bear Dance but they would come out here primarily for private gatherings or they came to camp out and hunt in the fall and fish. At one time, this area was renowned for chokecherries. There was such an abundance of chokecherries; we would come out here and we would just gather chokecherries by the bucketful.*
- *If they came here they made camp and were grateful for what they had and they went and picked berries and pine nuts and they fished or whatever they needed but they did not deplete the land. They didn't leave it in such a sorry state where it would take many years for it to regenerate. They would leave it in a situation where it would replenish itself within a year or season so that somebody else could come and use it.*
- *This was a useful place at that time. These hills were not round like that; they were sharp and all of the streams were nice and blue; clear and even the gold appeared. You could see it in the creeks.*
- *We would move north [along the old Ute Trail], like the elk in the summer because the berries, strawberries, grow up there in the higher country. Gather that first thing. Strawberries don't grow down in the lower valleys. They grow up in the higher country and certain things grow up there... and you won't find them down in the lower end. So when winter comes we move south. We went down to New Mexico...partway we would travel on this route and then deviate somewhere down there towards where we were going.*

Carracas Crossing Place Features

When asked, “What resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	2	0	<ul style="list-style-type: none"> • <i>This is one of the few rivers that flows all the time. And it's fast flowing, it's always like that. It's a little swollen right now but its always running. Certain rivers, like the Animas run all the time but it doesn't run to the degree that it does now because of the melting snow. The La Plata is a trickle, other rivers kind of dry up and barely run if anything, but these rivers, they run. The Pine runs too, the one that runs through Ignacio, that runs continuously.</i> • <i>Water is integral to our ceremonies, to our way of life. Our sweat lodges, when a baby is first born, we take it to the river and dunk it.</i>
Was this site a source for plants?	2	0	<ul style="list-style-type: none"> • <i>At one time, this area was renowned for chokecherries. There was such an abundance of chokecherries. We would come out here and we would just gather chokecherries by the bucketful. Because of development that has disappeared.</i>
Was this site a source for animals?	2	0	<ul style="list-style-type: none"> • <i>There is an abundant amount of wildlife in this area. Deer, elk, I don't think bear came down this far, no buffalo. Primarily deer and elk but primarily deer. And they need deer because ...they needed jerky and drying out in about 4 days here would do it...with the air and the wind.</i>
Was there evidence of previous Indian use at this site?	2	0	<ul style="list-style-type: none"> • <i>There's no evidence see, it's always clean. Even after all these years it's hard to find a spot where certain things were because its always clean due to the nature, we're naturists see, you have to keep it clean.</i>
Did Indian people use the geological features at this site?	0	0	

Table 3.3 Carracas Crossing Place Features



Figure 3.16 Southern Ute Representative and a UofA Ethnographer

Regarding traditional use of this site, Indian people also added:

- *I think that it would be an ideal location to have a camp along the trail because it would regenerate itself.*
- *We were talking about the spirits, I can feel the spirits here and its here and it reminds me of the old people. I remember my grandma used to um...we'd go down by the river and we'd pick a place maybe there wasn't a lot of shade but somehow we'd find shade. We'd spread things out and we'd all sit and visit and talk and the kids would play by the river and some would go swimming and it didn't matter whether it was photogenic or not. It was what the spirits gave us and what they extended to us and we took advantage of it and we enjoyed it.*
- *The land belonged to everybody. This was just a passage through, like a highway. Most of those people who lived in here were...the Anasazi. They had a lot of ruins in Colorado.*

When asked, “When non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what impacts did the presence of non-Indian travelers have on the resources at this site,” Indian people responded:

- *Four thousand horses is like, like I said yesterday when you asked the question what would it be like to have 4,000 horses come through your territory, it would be, I imagine, the same type of reaction and noise that 4,000 buffalo would make if they came coursing through your territory. Each one signified, horses and or buffalo, signified a specific economic gain or community asset. With the buffalo, it was something to eat. With the horses, it was to get them to Abiquiú so that they could sell them or trade them.*



Figure 3.17 Meadow near the Crossing

- *If 4,000 horses were camped along the riverbank, I think they might do some initial damage but it would grow back. The grass would grow back in time for the next journey.*
- *The encroachment of the trail through Ute land had its positive and negative factors and the Utes were very adaptable. They adapted to the change that was brought to them, whether they liked it or not the trail was here. They made war but soon recognized the futility of that because [the Spanish] were better armed than [the Utes] were and they weren't gonna stop 4,000 horses.*
- *We were scared of the Spanish. We stayed away from them because...even if we were caught killing deer that belonged to them, and they claimed everything, they cut our throats. That was the law, their law. There was no such thing as a court case then. It was outright torture.*

- *The Spanish, I think, enjoyed [the site] because they came from barren lands and crossed barren lands so when they came to some place like this area here, the Carracas area, I think they really enjoyed it. I think they were grateful they were here.*

When asked, “Are there places traditionally used by Indian people nearby that are connected to this place,” Indian people responded:

- *The mountains worked as a barrier for us, protected us and what you can't see is an invisible fence of altitude, the air. See that protected us. That was the reason we lived in the mountains.*
- *This was Capote land and they went everywhere. Abiquiú, you know Abiquiú was at one time the Ute, the Capote and the Muache agency and they camped in the San Luis valley. They had a hard time keeping the Jicarillas [Apache] out so they would periodically have skirmishes with the Jicarillas.*
- *That council tree in Delta, that's where that gathering was. It's under that tree that the decision-making was. All the bands from the different areas of Colorado would gather there to plan...They'd plan, see next May or March really was Bear Dance time, they plan on gathering in a certain area, maybe over towards east. They would gather and then when that date approached, say March, all the bands would travel towards that distance, to the eastern part and then build a corral there. That's where the Bear Dance would be held, so they'd have a Bear Dance all together. But the corral is all there and after they utilized it...they'd burn the old corral and then every time they'd build a fresh one. So there's no evidence [of our ceremonies] see, it's always clean even after all these years its hard to find a spot where certain things were because its always clean due to the nature, we're naturists see, you have to keep it clean.*

When asked, “Are there traditional Indian trails connected to this place,” Indian people responded:

- *The Colorado trail, the one that goes from Durango to the outside of Denver is actually an old Indian trail, an old Ute trail.*

When asked, “What else, if anything, do you remember about the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *By defeating the Spanish, you [Anglos] changed the world for us. We lived in fear at first under the Spanish control until you guys [Anglos] showed up.*
- *The Spanish being present was one calamity that had destructive [impacts] on our life.*

- *When you [Anglos] came to visit, my mother tells me, you were always invited to stay, to eat, and then to spend the night and I think that that is a result of the traders [trappers] who came after the train. I call it the train but the trail, and the people who utilized the trail.*
- *In the early days, we lost some of the names that were present in our environment ... When we moved into a new location we were confronted with a different, new environment; new plants growin, new kinds of things every time you move. So you wind up confronted with a new type of plants that you don't have a name for. So you got to find a way to give it a name.*

When asked, “Were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *If you think about small watering holes further up on the trail, that would do extreme damage.*

Ethnographic Comments

Ethnographic comments are provided after the Native American Comments. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Interviews with tribal representatives engaged a wide range of important issues. The ethnographic comments section selectss one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section focuses on the traditional Ute relationship with their surrounding landscapes and compares them with European approaches to the same landscapes. This discussion further develops the ideas that were presented by Southern Ute representatives regarding the intricate and reciprocal relationship that Utes have with their world and how OST travelers would have impacted or changed those relationships. The ethnographic are intended to further inform the reader regarding these issues, but are not to be considered as a complete analysis of the topic.

Prior to non-Indian travel through this area, the Carracas Crossing was a place where Indian people could collect resources, visit other Indian people, and cross the San Juan river in order to travel to other areas. Indian people were aware that this site had an enormous amount of resources but consciously decided not to exhaust them. Instead, they utilized the resources only up to a certain point because they did not want to cause permanent damage to the plants and animals that inhabited the area. This helped ensure a healthy and productive ecosystem. Charles Marsh (1982: 129) writes of this relationship in the *People of the Shining Mountains*:

They lived with deep respect for the earth and the sky, the plants and animals, because understanding nature’s lessons concerning the cycle of life meant survival. All living things were considered to possess a spirit or

soul and were respected as people of the universe. Only when necessary were plants harvested and animals killed. As Ute hunters and gathers harvested food supplies, an apology was often murmured to the plant or animal being offended, such as ‘excuse me for taking this life, rabbit, but my family is hungry’.

Another example of how the Utes would communicate with a resource before utilizing it is cited in Sally Crum’s, *People of the Red Earth* (Crum 1996: 136). She writes that “The Utes requested permission of the tree before removing its bark, a ritual that was followed with all living things they used; thus animals killed for food were also asked permission and given thanks and offerings.” The Utes not only interacted with the resources that they were taking, but were also thoughtful about leaving enough for others who would be in need. Crum (1996: 138) writes that, “According to historical accounts, the fruits growing at the top of berry bushes were often left for the birds to devour, while those at the very bottom were not picked so the smaller animals could eat them.” These two examples illustrate how Utes would have interacted with the various resources at this site.

Indian peoples’ interactions with the landscape continued beyond harvesting, gathering, and hunting. Indian people were also actively managing their environment to keep it healthy and productive for themselves, other people and the animals and plants that inhabited the area. Controlled burning was one way that Indian people managed their landscape. Omer Stewart (2002) noted this in his book, *Forgotten Fires: Native Americans and the Transient Wilderness*. He wrote, “One Colorado Ute reported burning to increase yield of wild seeds and wild tobacco,” (Stewart 2002: 230).

Burning went beyond grasslands; Crum (1996: 148) highlighted some of the purposes for setting fires and showed the stark contrast in attitudes between non-Indians and Indians when it came to this issue.

Non-Indians were further enraged when Utes burned thousands of acres of forests. Although this was an Indian tradition practiced to open the forests for easier horse travel, to make grasses more plentiful for game, to make future firewood gathering easier and to concentrate game for easier hunting, settlers saw the fires as destructive.

When examining Spanish and Anglo accounts of the Carracas Crossing a contrast between Indian and non-Indian approaches to this landscape emerges. In the Dominguez-Escalante journal, the crossing is described generally in terms of how it and its resources could be developed into their full potential. The Padres wrote:

El Rio de San Juan carries more water than the Navajo [segment of river below the San Juan-Los Pinos junction], and they say that farther north it has good and large meadows because it flows over more open country. Together they now form a river as plenteous as El Norte in the month of July and it is called Rio Grande de Navajo for separating the province of

this name from the Yuta nation. Starting down from the meadow and Paraje de Nuestra Senora de las Nieves, there is good land with prospects for irrigation and everything needed for three or four settlements, even if they be large ones...On either edge of the river there are leafy and extremely dense thickets of white poplar [probably a reference to cottonwoods], scrub oak, chokecherry, manzanita, lemita, and gooseberry. There is also some sarsaparilla and a tree that looks to us like the walnut (Dominguez and Velez de Escalante 1776: 11-12).

While the Spanish immediately saw Carracas Crossing as an area with tremendous growth opportunity and noted how it could be exploited, Indian people, having full knowledge of the immense resources available at this site for centuries, had been consciously using this area in a sustainable way.



Figure 3.18 Southern Ute Elder and UofA Ethnographer at Carracas Crossing

In only a few short decades of Hispanic and European use, the site quickly saw environmental damage. Simmons (2000: 48) writes of the early effects of the commercial use of the trail, “By 1828 pack trains were crossing Ute country, en route between Santa Fe and California...the depletion of grass by grazing horses and mules and the appropriation of game and precious water farther along the trail were resented.”

Over time and with heavy livestock grazing, the integrity of the ecosystem was challenged. Brown (1994: 149) writes:

Before [1900] domestic livestock had greatly reduced the herbaceous component of this community. Under conditions of heavy grazing, native annuals were unable to exist and alien species, once introduced, quickly occupied the abandoned niche.

Today the site remains threatened by development and misuse. When asked if the area should be considered for protection, an Indian person responded:

I think the Piedra corridor is especially vulnerable because as you know many non-Indians live up this way and even if this river is on Ute land...It needs to be protected because it signifies a part of who we are, not only as Ute people but also as people of this overall community and it needs to be protected and it has a history behind it because of the trail.

3.8 WATER HOLE ROCK

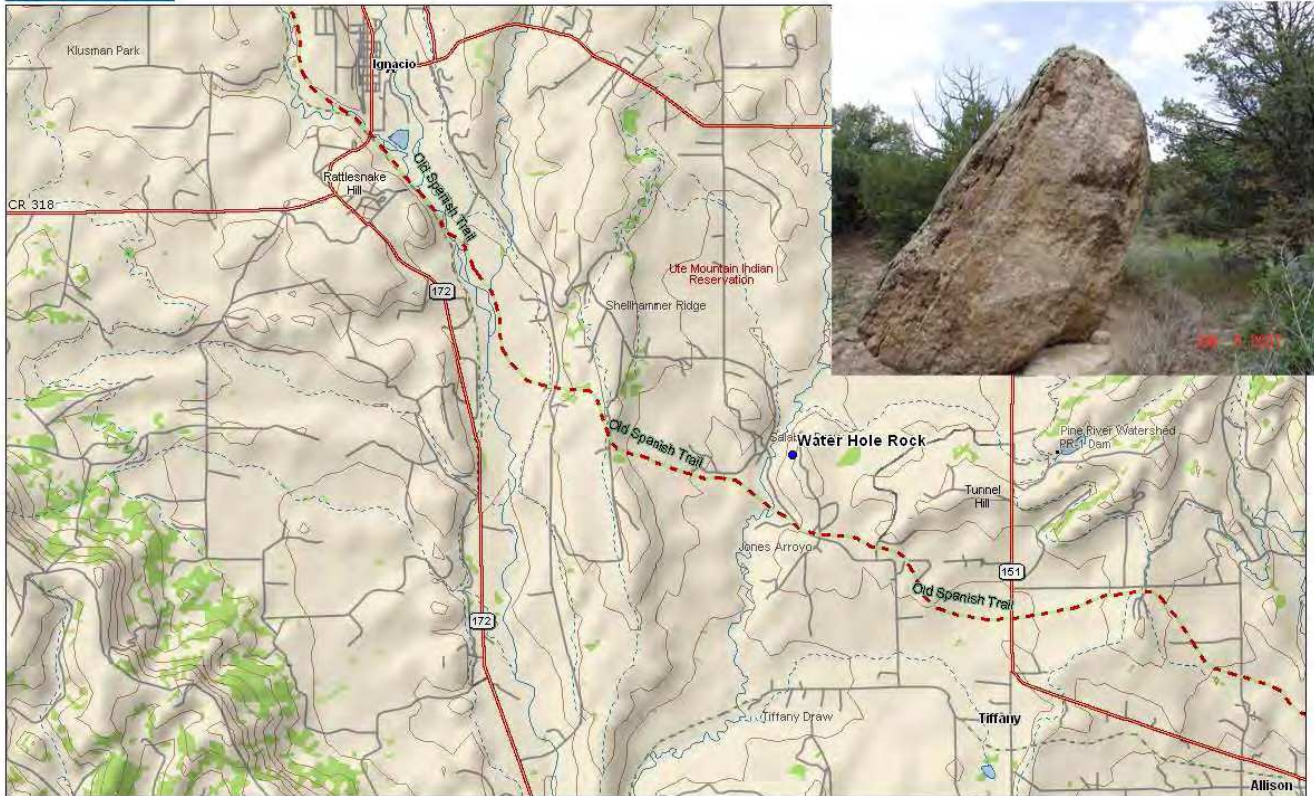
Water Hole Rock is situated 5 miles southeast of the town of Ignacio and 2.5 miles east of the Los Pinos River (See Map 3.6). This site was an ideal place to access water when traveling between the San Juan and Los Pinos rivers. Traditionally, older women managed the Water Hole, and there were stories told when Indian people would visit such sites. Although the site was not directly on the trail, its close proximity to the trail would have made it vulnerable to the large caravans that were traveling en route to California or Santa Fe. Presently, the Water Hole has almost completely dried up and the nearby spring, once visible above the surface, is revealed only by the presence of riparian plants.



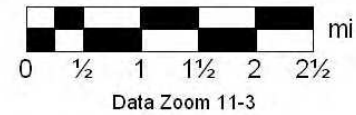
Figure 3.19 Southern Ute Representative at Water Hole Rock

Geology and Ecology

Water Hole Rock sits atop a ridge east of the Los Pinos River and is part of the Animas Formation, which consists of conglomerate and sand at the lower portion while sand and clay make up the upper part (Seegerstrom and Henkes 1977). The rock is on a slope along with several other large boulders with a spring, which presently exists underground. Most of the surrounding area either is under cultivation or is being drilled and mined for natural gas.



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Map 3.6 The Water Hole Rock Area

Ecologically, the area around the rock is classified as Great Basin Desert Scrub. Sagebrush (*Artemisia* spp.) dominates the area but is also joined by junipers (*Juniperus* spp.), piñon pines (*Pinus* spp.) and a small variety of prickly pear (*Opuntia* spp.) that populates the top of the ridge. These species are also found growing near the rock itself. This biome tends to occur between 1,500m and 2,300m with an annual rainfall ranging from 250mm to 500mm (Brown 1994).



Figure 3.20 The Spring Next to Water Hole Rock

Summary of Interviews

UofA ethnographers at this site interviewed one Southern Ute tribal representative. During the interview, the tribal representative discussed the use and meaning of Water Hole Rock and how it was impacted by movement along the OST.

Southern Ute Tribe	Male	Female	Total
Southern Ute Representatives	1	0	1
Total	1	0	1

Table 3.4 Interviews at Water Hole Rock

Native American Comments

Traditional Uses of Carracas Crossing

When asked, “Would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- *Old ladies use their hands to clean those springs, every spring[rock tanks]. If an old lady don't do that it goes dry. That was part of the rule...an old lady has to maintain them by use of her hand.*
- *You always give thanks to the water hole after you take something. Always give thanks for everything you do or leave some for the animals, then it keeps providing. It's a gift from the Lord, water is not supposed to be sold; it's for all humans.*



Figure 3.21 Cattails at the Site

- *They knew where the water hole was...they came to this spot to drink water.*
- *We have some on the reservations, springs that are dry, went dry. An old lady has to maintain them by use of her hand like this...she kept it supplying the water. A simple old*

lady can make it survive. If you don't maintain it, if an old lady don't maintain the spring water it won't produce. That's what happened on the reservation.

- *That's a spring nearby, that's why the cattails are growing. If you dig a hole up there you'll have spring water. That's where this water is coming from, underneath. That's a frog's home, the cattails.*
- *[Did you have any stories about the Frogs?] Yes...A long time ago, the animals were people...A long time ago there was a people, they lived elsewhere and...what they didn't know was that Frog lived in a pond, like a rock and then underneath it was a pond, a green pond. And all those other animals and people that came to visit that area would never come back. Never seen, never heard from, they'd disappear. It happened over a long period and any other human that went to visit in that direction never came back. So two brothers were hired to go check on those disappearing people; the eagle and the hawk...You see them around here ... they're brothers see. Well they went to that place, the area where they...were disappearing and when they checked around they discovered that there was a rock and underneath there was that little lake. A green looking lake, that's why they call it Ta-ha-wa-nok. Well at the top of that pond was a rocky ledge; high cliffs and the frog didn't know that those two brothers could fly. So they landed nearby and that frog had a daughter. So she goes back and goes to her dad and says, 'Hey dad, we got two visitors, one is so handsome and everything. His nose is bright yellow and his hands are all yellow, he's a handsome guy,' she says. 'His nose and his hands are a bright color and then his other partner almost looks to have the same shape nose only he didn't have the same orange color. I love those guys.' 'Huh!' that frog when he heard it says 'Huh!' when she mentioned they were both handsome, 'Huh! They're not handsome like me,' he says to the daughter. Then the daughter says, 'Well their faces don't look like your face so lumpy, you call that handsome.' He said 'Go take them to see...' something that is precious to him, priceless object, that's what he called it. Ok, what they did was, the daughter went over to them and then invited them to go see her dad's favorite, sacred area. Took them around there and there was a footpath along that ledge of a rock and took them over there to the very end and what they noticed was that there was a pond there, green, well you know with that moss in the bottom, looks green. So he says 'Look down there, its pretty off that rock' that was sticking out over the pond. Well the eagle looked down and the daughter says, get over, peek more over, closer to the edge. Well he looked down and he could see all the folks down there under the bottom of the water. Well the brother was sitting over there watching and the daughter said, 'More, more, more.' Well lets see, it was the dad that took them up there not the daughter, because he kept saying, 'Look step over to the edge you'll see better, little bit more, little bit more over.' So he did. Ok well he leaned over a little bit more, and [Frog] pushed him over the edge but one thing he didn't know was that eagle had wings, so he just glided to the side of the rock and glided along the edge of the rock and came out way over there. [Frog] was over there, 'Where did he go', searching all over saying, 'He's supposed to fall down there, I don't see him, where did he go'. Ok, all he did was glide over the edge of the rocks and then circle around behind him and then from behind he grabbed him by the arms and the Frog says, 'Oh, oh, oh' ...and the eagle just lift him up and tossed him right on top of that hole. So that's when he says, 'People will call you a frog from this point*

on.’ And he said ‘Every evening time your people will be crying.’ So today, you hear the frogs crying at night... [Frog] was gathering that crowd for his people, family, the frog’s species. That’s why they were all the different nationalities that disappeared [He was making different kinds of frogs]... So today you have different types of species of frogs, leopard frogs, with the different colors because they were different types of people, nationalities see. So that’s the frog story. That’s why you hear them in the evening, the bullfrog. That’s what he said, ‘Every evening you will be crying, come out crying.’ So when you pass a pond you hear all the different types of frogs making noise in that pond. Well that’s the way it was created. Happened that way in the beginning. And it was [Frog] that wanted to establish his kingdom...that was the purpose of it, creating different species of frogs. But he ended see. His career ended right there. He forgot the eagle’s ability. So you never want to underestimate the other fellow ‘cause he outsmarts you. Cause he didn’t know that eagle could glide and fly. That also implies that your opponent, you don’t want to underestimate him ‘cause he may have something up his sleeve that you don’t comprehend yourself. You won’t be alive to tell it in some cases, like the frog did. He died with it; it was his life, his career.

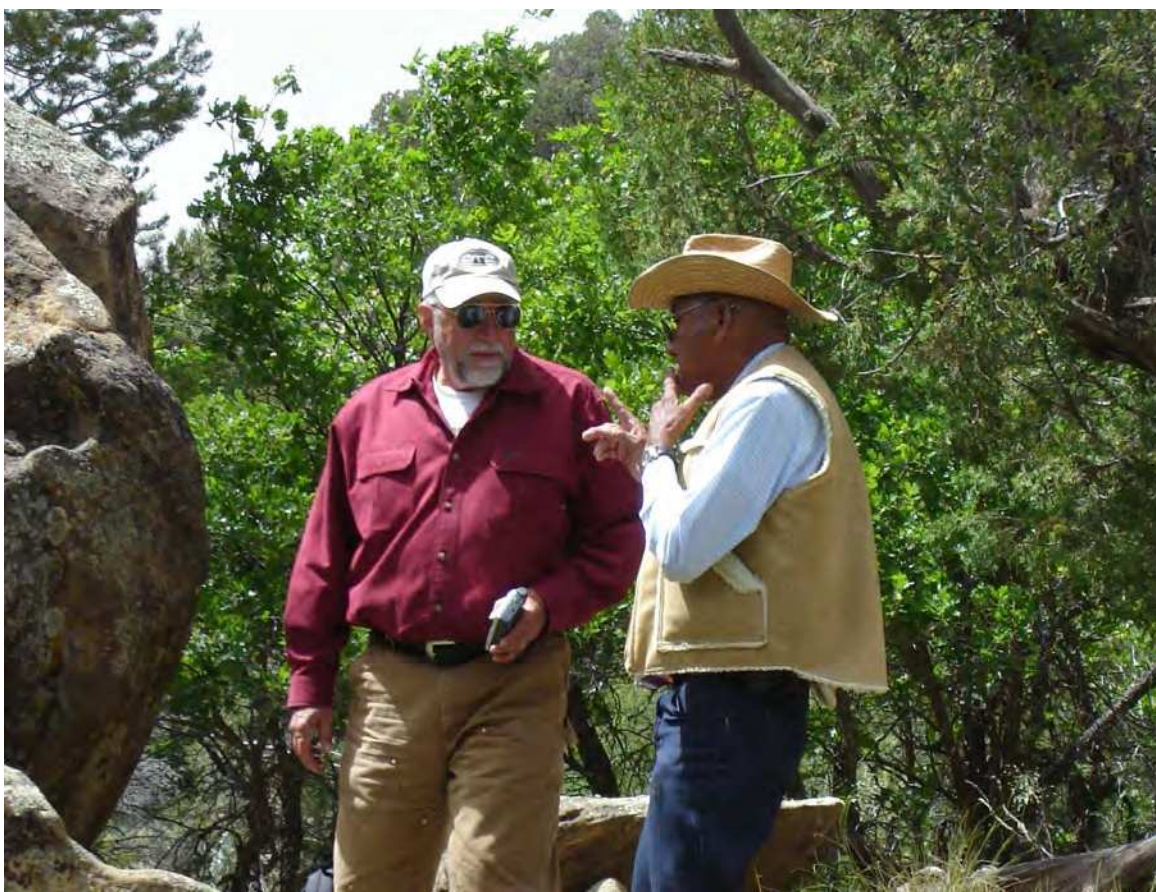


Figure 3.22 Southern Ute Representative and UofA Ethnographer

When asked, “When non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what impacts did the presence of non-Indian travelers have on the resources at this site,” Indian people responded:

- *I doubt it. This is one of those secret water holes. They wouldn't know it.*

When asked, “Are there places traditionally used by Indian people nearby that are connected to this place,” Indian people responded:

- *Where we went, I didn't show you, on my property where it comes off on my place, right down by the river there is a horse corral down there, there was a house. They held the first Sun Dance when they came right there. Later that house burned down. See, you're not supposed to build a house on a historical site.*

Ethnographic Comments

Ethnographic comments are provided after the Native American Comments. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Interviews with tribal representatives engaged a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section focuses on Southern Ute relationships with water and draws on examples from other Numic-speaking groups. The Southern Ute representative interviewed at this site believed this place to be of cultural importance and wanted it included in the study. While it was stated that physical impacts to this site would have been minimal due to the sites secret location, interviews at other sites suggested that impacts could go beyond physical, “*Non-Indian people would have impacted that relationship we had with the land because of the disrespect they showed towards it.*” The ethnographic are intended to further inform the reader regarding these issues, but are not to be considered as a complete analysis of the topic.

For Numic-speaking people, water tanks are powerful places that require specific practices in order for them to continue to provide resources. Water Hole Rock is one such site where a combination of physical and spiritual interaction was necessary to insure that the flow of water was maintained. This interaction and the maintenance of rock tanks have been documented amongst other Numic-speaking peoples such as the Western Shoshones, Owens Valley Paiutes, and Southern Paiutes.

One such place that has been documented is Water Bottle Canyon. It is located on the Nevada Test Site in southern Nevada. Water Bottle Canyon is an important ceremonial area that people would travel great distances to in order to take part in religious activities. Cleaning the large rock tank in the canyon was always an integral part of all ceremonial activities that occurred at Water Bottle Canyon. When people arrived at this place, they traveled directly to the rock tank to remove the sediments. It was seen as a duty a person must perform since it was their given rite by the Creator to be stewards of the land. Water could be collected at a later point in time to use as offerings or blessings in the various ceremonial activities. The cleaning of the water tank is extremely important; the tank needs to be clean so not only the people could use the water during their ceremonial activities, but the animals that inhabit the canyon area can come to the tank and drink (Stoffle, Van Vlack, and Arnold 2006).

The Water Bottle Canyon Rock Tank (Figure 3.23) and others found throughout Numic lands require cultural practices in order to function effectively. Traditionally, Indian people spiritually cleaned the tanks through the use of songs, stories, and prayers as well as physically removing sediment from the tank. The women cleaned the tanks and then the rain callers were brought in to call down the rain (Stoffle, Van Vlack, and Arnold 2006).



Figure 3.23 Water Bottle Canyon Rock Tank



Figure 3.24 Close-up of the Water Hole Rock

Water Hole Rock (Figure 3.24), although not directly on the OST, reveals much about the delicate and complex relationship Indian people had with the elements and their environment. Furthermore, with the understanding that water is a metaphor for Puha, then this site becomes interconnected to a larger area. In the Water Bottle Canyon Traditional Cultural Property Study, the relationship between Puha and water was noted:

Puha is intimately tied to the land, and it has a special relationship with water. Water is a life giving force that both falls from the heavens and springs from the land. It is imbued with power from its origin places, which it carries as it moves through the courses that carry it. Puha moves in much the same way, coming from the earth and spreading along natural courses. In a way, water is a metaphor for Puha, and the element is often inseparable from the power. Puha is not an abstract concept for Numic people, it is a physical reality (Stoffle, Van Vlack, Arnold 2006: 104).

Thus physical and spiritual imbalances would occur if native people were prevented from visiting the site due to traffic along the OST

With this idea in mind, it becomes clear that sites near the trail could be impacted even if foreign travelers did not directly use them. Although this site appears to have been unimpacted by OST travel, it remains an example of the relationship that Southern Utes have with water. The area around the site, populated by cattails, served as a reminder to tell certain Creation stories. Additionally, it reveals that Indian people would interact with the site and that gender and age played an important role in the community concerning the performance of certain rituals. Finally, the Southern Utes concept of water as a gift, for all humanity and as something, which should be shared, protected, respected, and used is revealed.

3.9 CROSSING OF THE LOS PINOS RIVER

The Crossing of the Los Pinos River is west of Rattlesnake Hill approximately 1.5 miles south of the town of Ignacio and about 3.5 miles northwest of the Water Hole Rock (See Map 3.7). For OST travelers, the Crossing of the Los Pinos River was an excellent stopping point between the Animas and the San Juan Rivers given the presence of water and vegetation. According to Southern Ute elders, this portion of the OST was continued to be used by travelers well into the early 20th century.

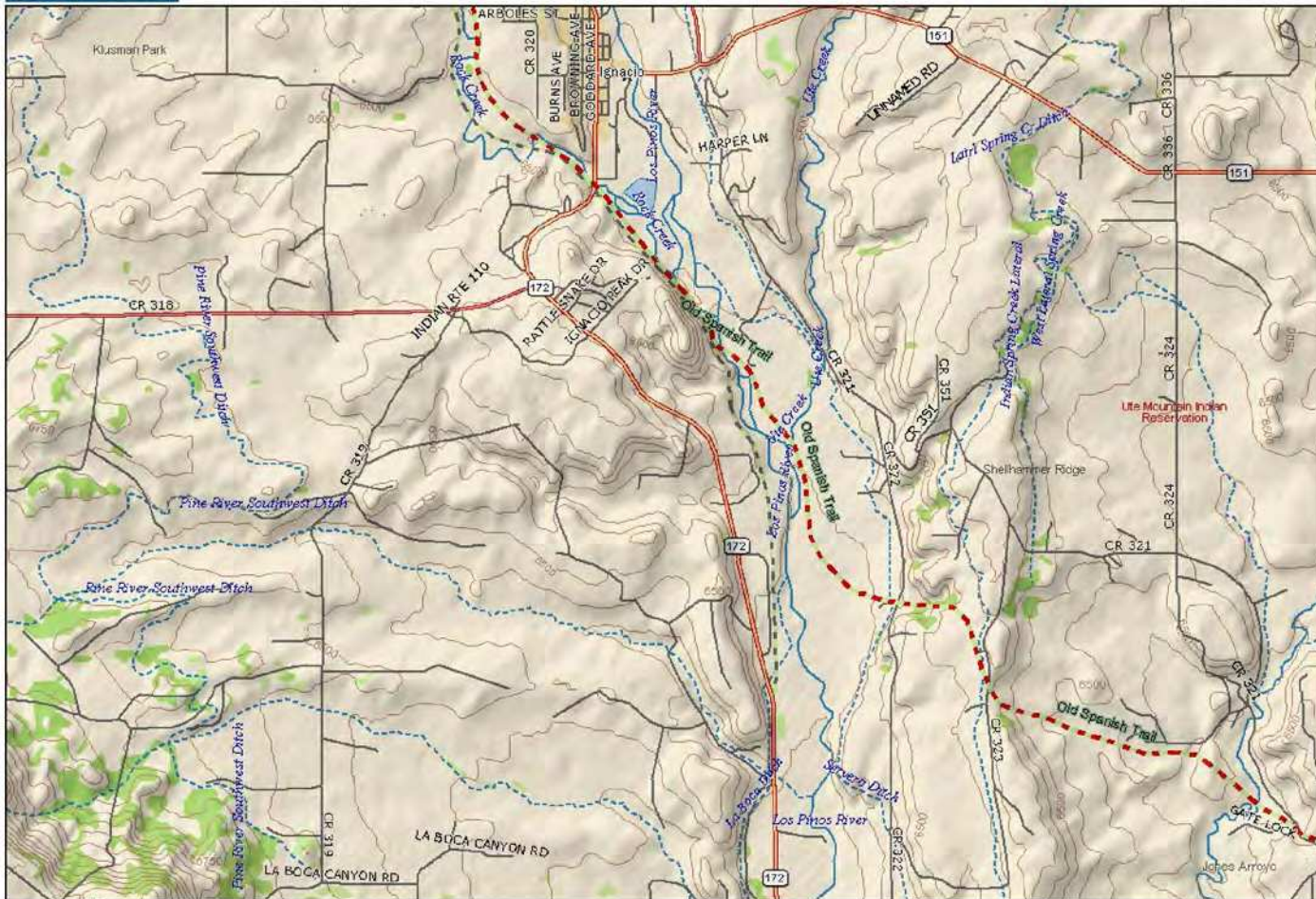


Figure 3.25 The Los Pinos River

Geology and Ecology

The Los Pinos River originates in the San Juan Mountains 6 miles south of the Rio Grande Reservoir and roughly 1.25 miles south of Weminuche Pass. The river flows southwest into the Vallecito Reservoir and from there it continues its southwesterly heading for 5 miles. Beyond Spring Gulch, the river heads south and eventually flows through Bayfield, Ignacio, and La Boca, Colorado. The river ultimately flows into Navajo Reservoir northeast of Bloomfield, NM. South of Bayfield, the river is surrounded by Animas conglomerate and sandstone, which have eroded off the Uncompahgre Uplift (Chronic and Williams 2002).

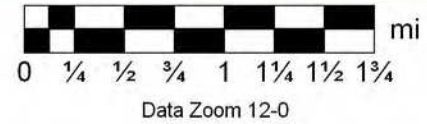
The Crossing of the Los Pinos River is found within the Great Basin Desert Scrub Biotic Community, which occurs between 1,500m and 2,300m. The annual rainfall ranges from 250mm to 500mm (Brown 1994). In this community, sagebrush (*Artemisia* spp.) is the dominant plant but it is also joined by junipers (*Juniperus* spp.), piñons (*Pinus* spp.) and a small variety of prickly pear (*Opuntia* spp.). These species are found dispersed across the landscape.



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Map 3.7 The Crossing of the Los Pinos River

Summary of Interviews

UofA ethnographers interviewed 2 Southern Ute tribal representatives at this site. During the interviews, the tribal representatives discussed the use and meaning of the Crossing of the Los Pinos River and how it was impacted by movement along the OST.

Southern Ute Tribe	Male	Female	Total
Southern Ute Representatives	2	0	2
Total	2	0	2

Table 3.5 Interviews on the Crossing of the Los Pinos

Native American Comments

- *My Grandmother was on that land, she had to put up with the Mexicans...since the location was along the Spanish Trail. They conceded it as a public way so she couldn't fence it. The Spanish controlled it.*
- *We [Southern Utes] were over in Pagosa, with the cavalry, the Buffalo soldiers. [What were Buffalo soldiers doing in Pagosa?] They were looking after us. Those Indians who were on the reservation, if they wandered off, the cavalry would bring them back. That was their job. So we squawked because we couldn't grow our vegetables through rocks over there so they gave us another location with a river [Los Pinos River]. So that's how we came over here [Ignacio].*
- *When it was allotted, we had to fence our land right away. The Federal Government ordered us to fence it off. And the Spanish came in and put pressure on my grandmother not to fence it [the trail running through her allotment] because they considered it a public highway. And she, not knowing enough English, didn't explain it to the Bureau of Indian Affairs and the bureau was just beginning to establish its office so there was no help for her.*
- *On my property...right down by the river there is a horse corral. There was a house. They held the first Sun Dance when they came right there. Later that house burned down. See, you're not supposed to build a house on a historical site.*



Figure 3.26 Southern Ute Representative with UofA Ethnographer

Ethnographic Comments

Ethnographic comments are provided after the Native American Comments. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Interviews with tribal representatives engaged a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section focuses on the development of the Southern Ute reservation and the role that the OST played in its formation. Though this section covers material outside the period established by the SOW, this is done to inform of the reader on the lasting impacts of the OST as they helped formed contemporary views and relationships between the Southern Ute Tribe and the OST. The ethnographic are intended to further inform the reader regarding these issues, but are not to be considered as a complete analysis of the topic.

Despite the enormous changes throughout the 19th century concerning Ute sovereignty and land rights, the OST continued to be a locally recognized highway to the extent that it circumvented federal law regarding allotted properties. The continued use of the OST for 75 years through Ute territory and the Utes inability to control traffic on the trail reveals how the trail, consisting primarily of Indian trails, came to challenge Ute authority and spread permanent settlement throughout Colorado.

While 1848 marks the end of official use along the OST as a route from Santa Fe to Los Angeles, contemporary Southern Ute oral history reveals that travelers were still frequenting the trail even as late as the allotment period which began in 1895. Thus while the trail had ceased to

serve as a major commercial highway by 1848, it continued on as a trail for travelers and small scale traders who continued to affect the surrounding Indian communities which they passed through.



Figure 3.27 Ute Horsemen Crossing the Los Pinos
(Courtesy of the Denver Public Library, Western History Collection, H.S. Poley, P-52)

It is important to note that when the OST began in 1829, it passed largely through the southern portion of traditional Ute territory. However by the end of the 19th century, Ute land had been reduced in Colorado to the most southwestern part of the state. Thus the trail would come to pass right through the center of the reservation. Therefore non-Indian travel along this route by the end of the 19th century would have made impact to the Southern Utes living in the area unavoidable.

Southern Utes and the Reservation

In 1849, the US Government began making a series of treaties with the Utes in which American access to Ute territory increased and lands held by the Utes were greatly reduced (see Figure 3.28). By 1868, Utes were being restricted to reservation lands in western Colorado and northeastern Utah. After 1871 the United States officially stopped signing treaties with Indian tribes and would afterwards only sign agreements; thus marking an end to the sovereignty of Indian tribes in the viewpoint of the American Government. With this change in terminology, efforts were increased to reduce the acreage of Ute reservations and even to forcibly remove the Utes from Colorado altogether (O'Neil 1972).

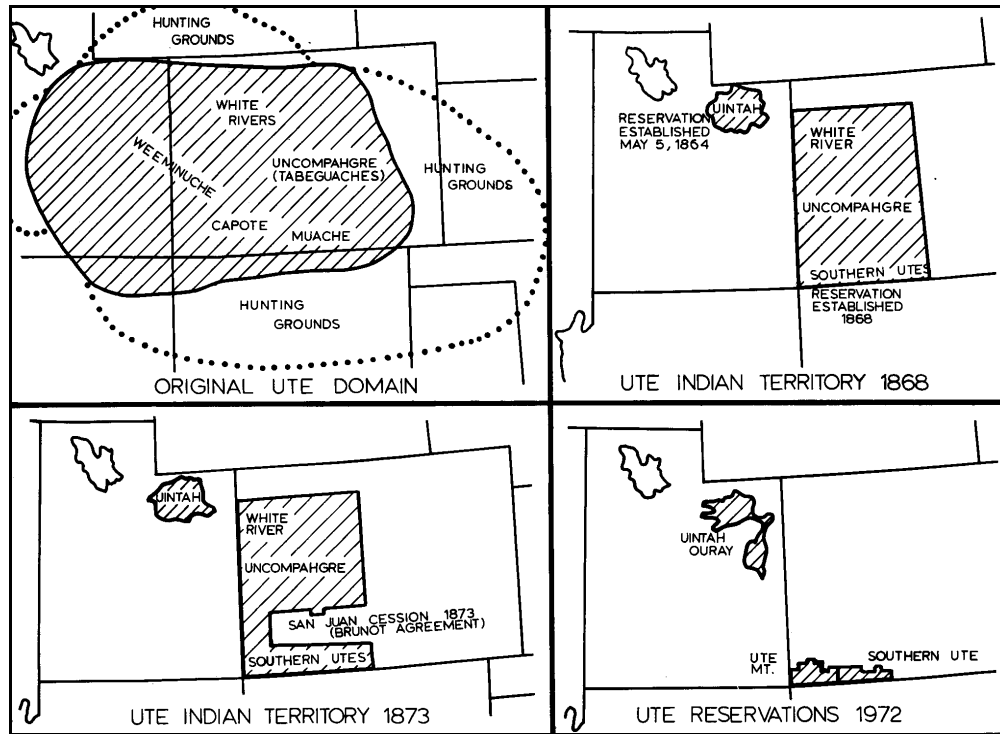


Figure 3.28 The Reduction of Ute Territory (O'Neil 1972 : xi)

Once it was established that the Capote, Muache, and Weeminuche would stay in Colorado, efforts were made to open up the reservation to Anglo settlement using the General Allotment Act of 1887. The allotment process for the Utes is described in *The Southern Utes: A Tribal History*:

The 1895 Bill introduced into Congress by Andrew J. Hunter from Illinois asked that the Utes be located on their old reservation in southwestern Colorado. Individual allotments of land were to be distributed to the Ute families and when all of the families had been given land, then the special status of the reservation was to be removed and the land not taken by the Utes was to be opened to white settlement” (O’Neil 1972: 41-42).

With this act the Southern Ute reservations was transformed from the once continuous reservation into a checkerboard pattern of Ute and non-Native land ownerships. Members of the Weeminuche band refused to agree to the allotments and were given the Ute Mountain Reservation (O’Neil 1972).

The OST served to heighten interactions between the Utes and non-Indians as well as giving Anglos the opportunity to explore Ute lands before the US Government became the official presiding power. Traffic along the OST did not end in 1848 with the official end of the Trail but continued in different forms for another 50 years, serving trappers, small-scale traders and settlers as well as the local Indian population. Impacts continued to be felt by the Southern Utes especially as they were forced into a sliver of their former lands, which had the OST traveling directly through the center.

3.10 RIDGES BASIN

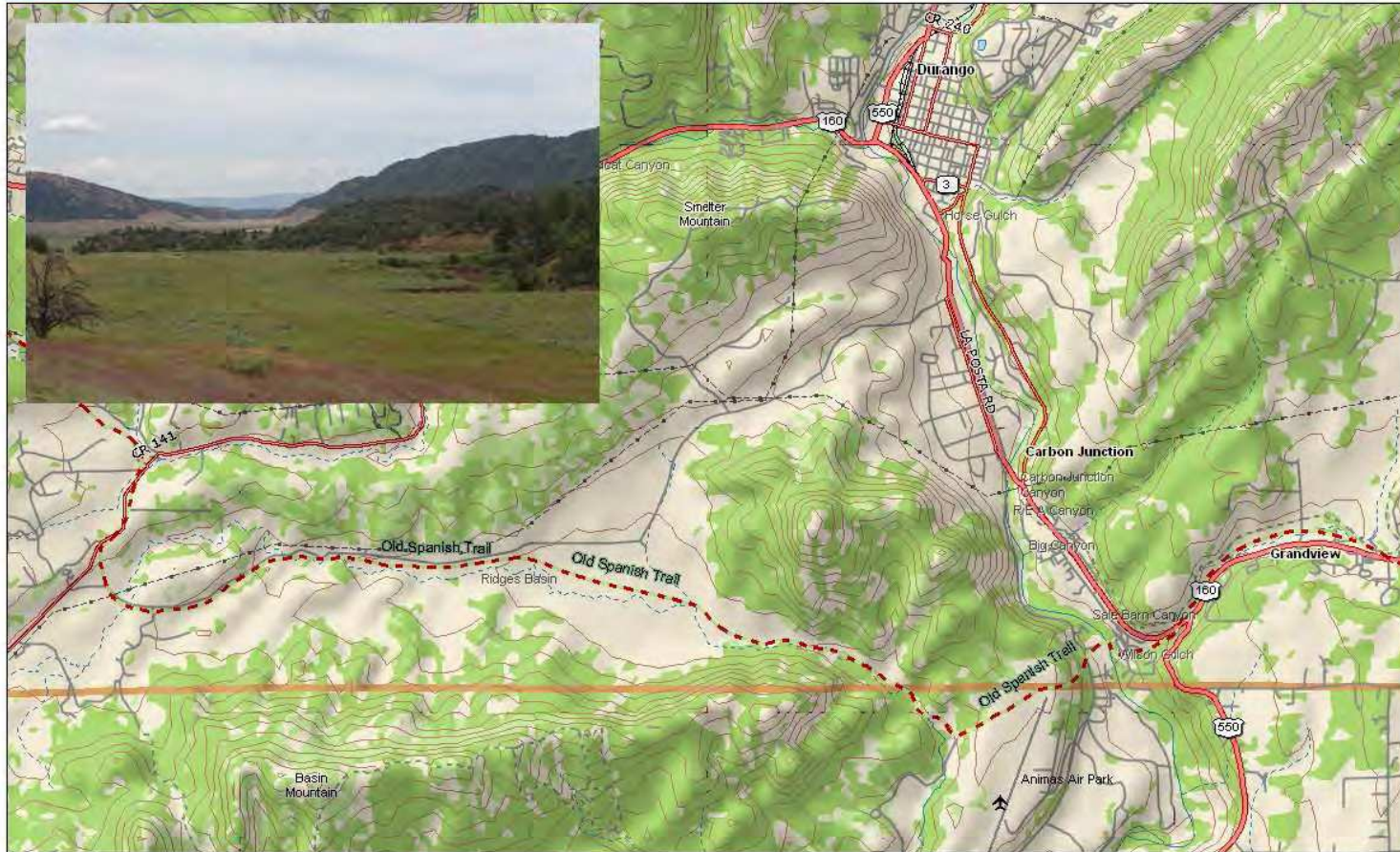
Ridges Basin is situated between Smelter and Basin Mountain and it is 5.17 miles west of the present day city of Durango, Colorado (See Map 3.8). This site is located in what will become the flood pool for the Animas-La Plata Project Dam. The abundance of plants and its proximity to the Animas River made it favorable as a traditional Ute use area and later it became a logical resting place for travelers and their animals along the OST.



Figure 3.29 Ridges Basin

Geology and Ecology

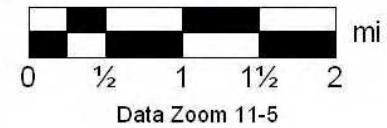
Ridges Basin is part of a large geological feature known as the Paradox Basin. The Paradox Basin extends from northwestern New Mexico into southwestern Colorado, eastern Utah, and northwestern Arizona (see Figure 3.30). According to Geologist Dell R. Foutz, the name Paradox is derived from “The fact that the Dolores River cuts across the Paradox Valley at right angles instead of following the trend of the valley- hence a paradox,” (Foutz (1994:122).



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Map 3.8 The Ridges Basin Area

The formation of the Paradox Basin began 400 million years ago during the Devonian and Mississippian periods. Strata dating back to these periods are composed mostly of marine limestone, which accumulated in shallow seas that extended over most of the state of Colorado. Then around 320 million years ago North America and Africa collided causing the Uncompahgria Range to rise between two northwest trending faults. Southwest of this new mountain range, the Paradox Basin sank approximately 12,000 feet. Since this area was isolated from the sea, an estimated 6,000 feet of salt was deposited along with 6,000 feet of red sediments that eroded off the Uncompahgria during the Permian period. The basin became an area filled with sequences of organic-rich shale, limestone, dolomite, anhydrite, halite, and siliciclastic deposits (Chronic and Williams 2002, Nuccio and Condon 2000).

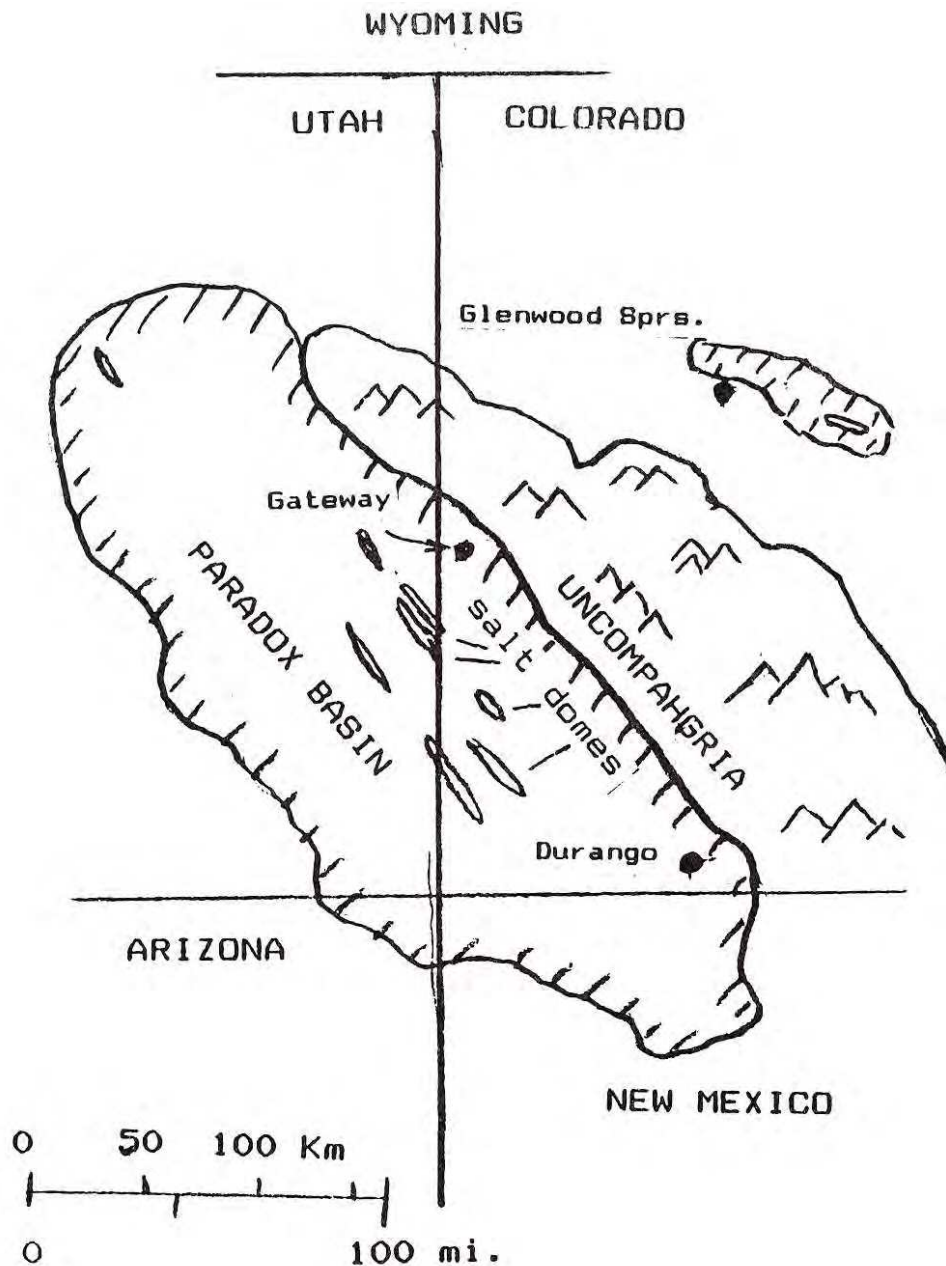


Figure 3.30 Paradox Basin (Foutz 1994: 122)

Ecologically, Ridges Basin is very diverse with elements of four different biotic communities present. The high elevations of Ridges Basin are found in the Petran Montane Conifer Woodlands biotic community. This community is populated with ponderosa pines (*Pinus ponderosa*) and Douglas firs (*Arceuthobium douglasii*) (Reith 1986). The shallow soils of the basin slopes support Great Basin Conifer Woodlands, primarily piñon-juniper and Great Basin Montane Scrubland which is composed of many deciduous scrub species. Piñon-juniper forests, the most extensive woodland ecosystems in the Southwest, are found at altitudes between 5000 and 7500 feet. The Great Basin Montane Scrubland that surrounds the basin is a peripheral isolate from the more ecologically developed areas of this community. It contains a variety of scrub species, particularly Gambel oak (*Quercus gambelii*), as well as mountain mahogany (*Cercoparous montanus*), serviceberries (*Amerlanchier* ssp.), chokecherries (*Prunus virginiana*), cliffrose (*Cowania stansburiana*), greenleaf manzanita (*Arctostaphylos patula*), and buckbrushes (Brown 1994). The basin floor is part of the Great Basin Desert Scrub community. It is dominated by sagebrush (*Artemisia* spp.) and rabbitbrush (*Chrysothamnus* spp.) and it represents an eastern extension of the “high desert” of the Basin and Range Province.

Summary of Interviews

Representatives from the Southern Ute Indian Tribe were interviewed by UofA ethnographers at this site. During the interviews, tribal representatives discussed the use and meaning of Ridges Basin and how it was impacted by movement along the OST.

Southern Ute Tribe	Male	Female	Total
Southern Ute Representatives	5	3	8
Total	5	3	8

Table 3.6 Interviews on Ridges Basin

Native American Comments

Traditional Uses of Ridges Basin

When asked, “Would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- *Basically the Ute people as a whole have always been in this area. You know whether they were bands or as a whole, they have always been here...not only in this area but the whole state of Colorado, Utah, and parts of New Mexico.*
- *[If they had a round dance in this valley, would the valley still hear the songs?] All spiritual and all things that have happened, the essence and the spirit are still there.*
- *[Were this valley sought by a Ute, could they hear those songs, if they prepared right?] If they knew what they were looking. [So the land would give back the songs to the Utes?] They would hear it but maybe not recognize it. It would be the same like if they went on vision quest here. And I don’t know if that was clearly identified or not...you know when*

you go on vision quest, you hear. First you have to open yourself up, it's just like opening up your pores, and you feel the wind, you feel the music it plays. You feel how temperate it grows...it goes back and forth and then you start to feel the trees and the essence of this and how it plays in the wind. Now you can hear the music that it generates...that's what you do. And then you go to another degree until you come to that point where it leads ultimately into a vision. Not everyone can do that anymore. The vision comes from all aspects whether it's environmental, spiritual...it comes from the rain...it comes from the thunder...it comes from everything the Creator has made.

- *I would say that maybe they lived here for a length of time and then they moved off to another place...it had to replenish itself. So if you lived here for maybe two or three years, you know you are going to come back so you left structures for your homes or whatever and then went to another place to live that you had lived previously. You had different places so the land could replenish itself.*
- *If they lived here for a certain period of time, they might have used in addition to teepees, they might have used a brush harbor or a lean-to but they would have disassembled those or they could have disintegrated through a natural process. It would indicate that they weren't even there but they knew the location in terms of directions and what valley it was in. My family would love a location like this because it is so precious where it's shady, it's green, and it's a place where they could sit and rest. Even when Indians traveled, they looked for places like this because it feels good.*
- *I would call this area "Na-wah-tah-a-veep"... a Beautiful Place. I think the Indian people would have used this area traditionally. The openness, the quietness, and the freedom to go wherever they wanted to go would have brought them here. They could hunt. There's deer in this area...even elk! So it's just a quiet open place. The peacefulness of this place is important. This would have been a hunting place. There probably were Indian camps in this area that were temporary because Indian people had the habit of moving from one place to another, depending on the weather and depending on the severity of winter time. And also the abundance of chokecherries and berries of some kind...in the summer time, that's what they were interested in...berries that they could pick and save. Also pine nuts and stuff like that. It was a summer gathering area...especially the mountain areas. The lower elevations were more attractive to the Ute people because of the winter snows.*

Ridges Basin Place Features

When asked, “What resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	NR	List and Describe the Use Each Specific Feature
Was this site a source for water?	3	4	<ul style="list-style-type: none"> • <i>A stream...especially if it snowed a lot during the winter. I think the Indians would have been resourceful, dug wells or figured out some way to retain water- sometimes they made flues that would come down so they would have a pond lined with rocks or with pitch. A lot of places had springs...don't know if there is one here but I would hope that they did. The springs would be used for drinking water. You would have to have water to stay up here.</i> • <i>There has to be a spring somewhere.</i>
Was this site a source for plants?	3	4	<ul style="list-style-type: none"> • <i>Looks like there are different kinds of growth that I can see. I think if you get up into those hills, you could probably find those yucca plants. I know in our family they used to eat a lot of the vegetation like wild spinach, lamb's quarters, used to find wild onions. In those days they probably used a lot of bark. I know we used to use a lot of pitch for many things.</i> • <i>We used to use it to seal baskets. My grandmother used to use it for glue. It was also kind of like a medicine. Chokecherries...currants, we used to call them po'waap...they're berries. We also used to pick buffalo berries. They are little red berries you find on these silver trees. I don't see any here but maybe there are some here. There is a plant called eese...it was really bitter and tart and it tastes really good. And where you got the soap was from the yucca plants. There's cactus here too. On the cactus, there's the little red pods and you could eat those.</i>
Was this site a source for animals?	3	4	<ul style="list-style-type: none"> • <i>The Indians used to eat prairie dogs, and they probably used to kill birds too. Wild turkeys...my grandma was always talking about wild turkeys. There might have been bears up here...black bears...the little ones.</i> • <i>There were probably elk, deer, and probably buffalo. Rabbits, but I don't think you can see rabbits right now. We would trap a rabbit and have rabbit dinner.</i>
Was there evidence of previous Indian use at this site?	0	0	
Did Indian people use the geological features at this site?	3	4	<ul style="list-style-type: none"> • <i>They would enjoy going up the big mountain maybe just to see what was on the other side. The rocks...they used the rocks for their sweat lodge and maybe they would use it for their reservoirs. Maybe they would even use it for shelter, for barriers. Probably keeping your little territory...they would mark their territory.</i> • <i>They would have used the mountains near by. I imagine they used the mountains for hunting and to look out too. It is interesting to climb a mountain and look over.</i>

Table 3.7 Ridges Basin Place Features

Regarding traditional use of this site, Indian people also said:

- *Yes. I think it would be a really good camping area because it is so flat and it goes along way. It is guarded by all these mountains around it. I don't know if it always looked like this or if someone cleared it. But the way it looks right now it looks like a very nice camp area. It looks like there was a river or something going down there. There might have been water there. I like that it is really high, it would have been cool. They have a lot of pine trees, which indicates that it is high altitude but if you look to the east, it is really nice and flat. It is like in a valley. In those days it would have been an ideal place to live or to camp out just temporarily because the Utes moved a lot. It seems to me it would have been a nice place to grow things. It would have been a hunting area...when I was walking up there; I saw tracks...probably deer tracks. I saw deer and rabbit droppings. They also would have gathered plants here too. There are a lot of different kinds of plants. I think there would be a lot of plant life here. They also could have had ceremonial activities here because there is a lot of wood and if the water was there they could build their sweat lodges to cleanse themselves. If they had the water here then you could do the sweats and it could really clean you out. Cleans your pores out too. I think you could have really great ceremonies here. There's lots of willows and trees here where you could make a corral. I think you could even have a Sun Dance here because there's a lot of the pine trees where you could get your big pole and the 12 poles you could need for the Sun Dance. It would be ideal because they wouldn't have to suffer so much with the heat. It would be a nice event. This area would be used for the whole tribe. Even as nice as it is here you would invite people to come here and congregate for maybe a month or two months or maybe all during the summer before winter. This could have been a place where they got all their food. I don't think they would want to winter here...to gather your food plants, your medicines, your deer, I think you could do that here. I think it would have been nice to invite the Ute Mountain Utes, the northern Utes, and the Pueblos.*
- *Our family is one of those who believe that we were integrated into other groups and became who we are and so consequently, we were always here. But we also knew that there were people who had these artifacts and these buildings here and they were from the "Wee-tah-go", the Old Ones...they were the ones that were here and they built this. Consequently, we have a lot of respect for it because we didn't bother just like the Ute Mountain Utes didn't bother. They knew that Mesa Verde was there but they didn't go there because they felt that it was not their place to do that. Everyone had a sense of belonging and they didn't belong there. So they didn't bother with it. So a lot of these sites we didn't bother but they are here. As far as my present day feeling about this place, how I feel about it...it has to come from a sense of spirituality. It comes from a sense of spirituality that this is a very peaceful and tranquil area and it's restful. And I am very appreciative about that because I know from my present day experiences and my experiences in the past, my dad used to bring us into this area a long time ago when he was alive and we were young. We would see the animals, he would make us appreciate*

that there were wild animals here and so he would tell us that...like somebody mentioned earlier that they calved and had their young ones here and it was not up to us to disturb them but it is okay for us to come through here and appreciate what's here. This is what the Creator gave us. He gave us this valley; he gave us all of this land for us to enjoy and to be a part of it. Like my mother said, we live in an area of Colorado the Creator gave to us because we are the Creator's people. The Creator gave this to us and therefore we have to take care of it. [If you were to speak to the land in Indian], the land would speak in many languages...it would speak in the languages of those who were here before us, those who had structures or who had some type of housing...it would speak their language. It would speak to those who came through here. It would speak for a lot of people for whom we may not know and may not know today. It would also speak of my people. It would speak of how they feel about this and how they glorify this land and how it just fills them with joy. Because land like this, that's its purpose. The Creator gave you that joy to be able to understand what it means to appreciate the land.



Figure 3.31 Southern Ute Elder, Her Grandchild, and Southern Ute Museum Director

Regarding plant resources at this site, Indian people also said:

- *They used chokecherries and healing plants. I saw some in this area awhile ago. There's some healing plants that my grandmother used. A lot of plants to eat because we used to eat oak leaf. We used to find some roots...they looked like*

onions but they're small. One had a real sharp taste like garlic which we called Kahwhic-sa-segu, and the other one was just segu. The wild crab apple trees were good too. The sage was used sometimes...we would boil it and drink it sometimes when we had colds. It was real bitter.

When asked, "Are there places traditionally used by Indian people near by that are connected to this place," Indian people responded:

- *We have areas where people lived. Over the mountains where Boda Park is, it's all village sites down there. From where we turned up this way to where we came in from the purple hills down there that's all villages...there's some burials in there. It's a more intense living area. Across the river...across from Carbon Junction, there were also a lot of village sites too.*
- *I would say the hot springs in Pagosa...that would have been pretty close and that would have been a healing place for the people. They would have to travel miles and miles to get there. And north of Durango there was a hot springs too! That's another place where they had hot springs. [Would you bring a gift to the hot springs?] I think that any time you take from nature, the land, you should give something back and it would be in the form of plants, or even prayers if you didn't have anything. You would always give thanks to what it is you are taking but at the same time you would give back. Or too, one of things they used to do, if you take, you have to give to somebody else. You always do give thanks...for your food or like we say when you are going to kill an animal you have to thank them for sacrificing their body for you and your family. I guess you are not giving them anything but you are thanking them. But then when you take sage...we have always said you give it tobacco or something else. [Is this a way to establish a relationship with the place?] You already have a relationship...you have ALWAYS had a relationship with the place, with the earth, with the sky...always! It was never that you're not. It was a given. You take care of it because it takes care of you. It would be a way of acknowledging and appreciating it and that's a very important aspect of who you are.*
- *The non-Indians would have impacted the hot springs...it would have become theirs and not ours. They claim ownership. The hot springs were there for everyone's use then it became NOT for everyone's use.*
- *I imagine there are places connected to this place near by. They would be places where they worshipped or places where they had ceremonies.*

When asked, "Are there traditional Indian trails connected to this place," Indian people responded:

- *Trails would connect this place to our sister tribes so they would know that this was Southern Ute territory. It would have become one of the major areas for rendezvouses. This place would be an area where they would all come together*

and interact, socially. Maybe this would be a place where they would find their partners.

- *There would be trails to ceremonial places that passed through here...especially if it had a hot spring. It would be also not just because it had the hot spring but because the people that were here. It would draw people to produce some kind of ceremony because ceremonies are basically a way of life for Indian tribes.*
- *There were trade trails. They would use this route to go visit the Navajos, Ute Mountain, the Northern Utes, the Jicarilla, and of course the Pueblos...they would come through this area. But they were closest to the Ute Mountains, so they would probably go back and forth as needed.*



Figure 3.32 Southern Ute Elders, UofA Ethnographer and ALP Archaeologist

- *There were trails that took them to different gathering areas. That's why I say you know in the different areas...up to Utah it would be for say...poles, wood, or maybe a different type of food source. Over to Towaoc, it would be a different thing. And to the Pueblos for their pots, and to the Navajos for their woven goods and blankets. Then too...it's kind of a trade...a time for trading. Those trails would lead to those places for trading. We might trade deer for something. Yeah they would be able to trade back and forth.*

- *There are trails connected to this place. I know there is one over on the other side that my dad used to go horseback all the way to Towaoc to see his family because his mother was from Ute Mountain.*
- *I imagine there were song trails, trade trails and trails to resource areas that pass through here.*

Impacts to Ridges Basins

When asked, “When non-Indians began traveling through this place, did their presence affect the Indian people who used this area, and what kinds of impacts did they have,” Indian people responded:

- *You can look at it two ways. You can look at it from a negative standpoint in terms of they are causing disruptive elements. But you asked that question, so I was thinking, what would those Plains Indians think when they saw 4000 buffalo come over the hill? How would they have reacted? They would have reacted differently because it was food, it was something they could use every part of...the buffalo. The buffalo were certainly not 4000 horses! The Indians here could have used the horses maybe to go on raids and to do that type of thing. It would have certainly been disruptive to the people in this area. And not only that, see that swath up there of land...that’s what they [the OST Travelers’ horses] would have done...that’s the type of trail they would have left because they would have left a wide trail like that and wiped away all the vegetation and perhaps even caused some erosion.*
- *From a linguistic point of view much of the nouns that we have for horse, bread...a lot of those words derived from Spanish so there had to be interaction in terms of trading, some interaction in terms of a cultural perspective and from an economic and training perspective. After all, one of our agencies was located at Abiquiú. So there had to be some economic interaction there as well. So I’m sure they were aware of the caravans traversing through this land.*
- *The first white man [the Spanish] was the mean one ...they claimed everything for 100 years... any time you were caught on their route their punishment was to slit your throat. The second white man [the Anglo] who appeared was much kinder than the first one.*
- *Trading was integral to who we were. I think if there was any initial negative encounter it would be the first and second time. Then the Indian people realized that there were goods and things that they needed to better their lives...horses, trade goods, textiles...the Utes were very adaptable people. We were not people who sequestered ourselves and decide we were going to shut out the world. So I think if there was any negative connotation towards the people coming through here and using this land as a trade route, it soon dissipated and realized that it certainly had its merits.*



Figure 3.33 Southern Ute Museum Representative and a Southern Ute Elder

- *It would be intrusion. I would think why are these people coming through our area. This was always our area. I would think that they are “change” which I may not have wanted at that time. I would have wanted it to remain as it was. When you have a different group of people coming through then you know that change is coming. And I think they would have rather have it stay as it was with this Brown world instead of the White world. And it would have been bewilderment of the things that they were bringing that were different which could have been good. But I think it would have been intrusion and the world was beginning to change because of that. Anytime I think you have something new coming then change isn’t very far behind.*
- *The presence of the caravans affected the Indian people. The Indian people would have run up into the hills and hide. I know I remember from my childhood, any time a strange person came, we used to take off and hide under the bushes and let*

them pass by. And then we would come out after they were gone...sometimes we would run out into the arroyos. I'm sure it was the same back then because my grandmother always said "you weren't to be seen." I imagine they'd [the Indian people] hide until they [the travelers] passed or until the Indians found out if they were friendly or hostile.

- *The travelers affected the peacefulness of the place...definitely! Whenever people came to our home, we would get disturbed too. The Ute people always warned their children to be aware of who were friendly and who were not friendly.*

When asked, "What impacts, if any, did the presence of the non-Indian travelers have on the water at this site," Indian people responded:

- *Non-Indian people would have impacted that relationship we had with the land because of the disrespect they showed towards it.*

When asked, "What impacts, if any, did the presence of the non-Indian travelers have on the plants at this site," Indian people responded:

- *Non-Indian people would have impacted that relationship we had with the land because of the disrespect they showed towards it.*
- *I think the travelers and their animals impacted the plants and animals at this site. They would have trampled over the plants. But that probably didn't destroy everything because there are plants up in the hills that are still usable.*

When asked, "What impacts, if any, did the presence of the non-Indian travelers have on the animals at this site," Indian people responded:

- *Non-Indian people would have impacted that relationship we had with the land because of the disrespect they showed towards it.*
- *I think the travelers with their animals might have scared off the deer and the elk. We even scare off the deer you know. The travelers probably killed them for their antlers too.*

When asked, "what impacts, if any, did the presence of the non-Indian travelers have on the geology of this site," an Indian person responded:

- *Non-Indian people would have impacted that relationship we had with the land because of the disrespect they showed towards it.*
- *The non-Indians would have impacted the hot springs...it would have become theirs and not ours. They claim ownership. The hot springs were there for everyone's use then became NOT for everyone's use.*

- *The travelers probably impacted the mountains both physically and spiritually. They impacted it by cutting down trees, by trampling the healing plants and scaring off animals, scaring off people.*

When asked “Were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *Non-Indian people would have impacted that relationship we had with the land because of the disrespect they showed towards it.*
- *I imagine the travelers impacted the ceremonial places. The Indian people didn't feel comfortable; they probably felt intrusion. I imagine too that they might have to go somewhere else for their ceremonies. They were free, they could go wherever they wanted too until they were herded off on to reservations. And they chose those other places because of the place's sacredness because it was theirs...it was their way of life.*

When asked “If Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people go somewhere else to replace activities formerly done here, where did they go and why,” Indian people responded:

- *I think that they would have had to find alternatives. It may not have been the same...you know hot springs...in their travels they might have found a different place to work their medicine. Or maybe they had to create different avenues to take care of their spiritual, mental, or whatever medical needs. In many cases they would have had to borrow from other tribes. Other tribes might say, 'Oh we don't have hot springs but this is what we do.' And they would have to borrow from different tribes. Somebody else might have had a different way to heal. You see I think a lot of tribes share methods to deal with the spiritual lives or their physical lives. I guess it is all about adapting to what has been taken away from you. The leaders would have to negotiate...it would all be determined by the leaders of the different groups. They would have to seek permission and acceptance from that group in order to have that done. The Indians believe you could taint what you were doing if isn't done the right way. You could ruin it for yourself by not following the protocols that have already been set.*
- *The Utes lost control. Besides maybe they just got tired and they probably moved out of here. I think they might have moved south or north. They didn't want to deal with the Spanish or the Mexicans any more because of the diseases and because of what was going on. I think they just gave up. Any time there is any kind of disturbance going around whether it's bringing animals through or bringing a lot goods through and they were just shooing everybody...would you stay? We left what ever they could...We just said the heck with it. We said we didn't want to live here anymore because their people were coming through here...we have an idea of when they are going to be here but we don't want to be*

here when they get here. They bring this disturbance to bother our people. Whatever atrocities that they did along the trail, I don't think the Indian people wanted anything to do with that anymore and it had been going on for almost 200 years. After 200 years, we said, we can't keep them out. Once that first pack train came through it became more and more.

When asked “If Indian people could no longer use trails in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people find other trails to replace them and why,” Indian people responded:

- *If the travelers used it [trails], they might of abused it...abused the trails, abused the system that had been set up and it could have changed the way trading would take place based on the things that they [the non-Indians] brought. I think the system would have been compromised. I think they would have created new trails, but they would not of wanted to because once the non-Indians get on there, there is no turning back. Maybe to maintain that good relationship with the other tribes they [the Utes] would have had to make new routes of travel.*

Ethnographic Comments

Ethnographic comments are provided after the Native American Comments. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Interviews with tribal representatives engaged a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section is focuses on the traditional uses of Ridges Basin both as a resource gathering site and as a ceremonial site. This section also addresses the issue of trail ownership by detailing changes beginning in 18th century in Spanish-Ute relationships that lead to the possibility of the OST. While some of the information included in this section falls outside of the prescribed study states listed in the SOW, this information is extremely relevant when addressing the rise of the OST and some of the obstacles in naming the trail. The ethnographic are intended to further inform the reader regarding these issues, but are not to be considered as a complete analysis of the topic.

The Southern Ute people have a special relationship with the ecology of this site and have developed special types of knowledge for site management and protection. They believe this knowledge is the result of having been created in their traditional areas. Many scholars have stated that people who inhabit an ecosystem for multiple generations will learn about its ecology, hydrological systems, and the cycle of disturbance (Berkes and Turner 2006, Nazarea 1999, Stoffle, Zedeño, and Halmo 2001). The longer a group of people lives in a given location, the more they develop an expansive knowledge base, and deepen their connection to the land. People and their environments co-adapt with each other and become heavily dependent on each other over time in order to keep the

system productive and to increase biodiversity, which is necessary for healthy ecosystems.

How is environmental knowledge translated into resource use practices that promote sustainable use of natural resources and biodiversity conservation? The answer lies in the conservation-oriented practices of a traditional people. This is grounded in the notion that humans are a part of nature. Traditional peoples consider themselves to be members of a wider community of beings that include animals, plants, rivers, rocks, and air. They respect these beings, even though humans can disturb, cut down, kill, or consume them. Their relationships with nature are directed by channeled prescriptions as to what, when, and how much is to be left undisturbed. Social restraints are often based on supernatural forces. These restraints commonly lead to conservation practices. They provide protection to some ecological communities and habitat patches and they provide total protection to certain selected species. Social constraints assist in protection of life history stages and organize certain resource gathering events under key experts to prevent exploitation (Berkes, Folke, and Gadgil 1995). The environment and the surrounding landscape become part of a society's oral history, ceremonial cycle, and language as everything becomes intertwined systemically with each other.



Figure 3.34 Ridges Basin Landscape

As part of their cultural co-adaptation, Southern Ute people developed a transhumant adaptive strategy. A transhumant way of live involved the harvesting of a diverse range of plants and animals during the course of a complex annual cycle that involved periods of travel throughout an expansive territory. This ecological adaptation

optimized the carrying-capacity of the environment by spreading resource use over a wide range of land.

Each Ute District had temporary camps in the upland and valley areas that were used for intermittent and seasonal harvesting of wild plant and animal resources. In the early spring until late fall, Utes would hunt for animals such as deer, elk, antelope, and other game animals. During this time, they would also gather grass seeds, wild berries, and fruits. Early spring was an important period in which crops were planted in the mountain valleys

Ridges Basin would have been an ideal location for spring and summer activities. This area had a variety of food and medicine plants. The Ute people made seasonal rounds by spending the summers in the upland areas with cooler temperatures and the abundance of botanical resources. In the colder winter months they would travel to lower elevations along the San Juan River.

Ridges Basin also could have been used as a location to conduct ceremonies such as a Round Dance or Bear Dance. The Bear Dance traditionally is preformed in the spring and all Ute groups are invited to participate. The group who sponsored the dance is responsible for providing food, constructing the large circular brush enclosure, and organizing the dance. Men play rasps (unnotched and notched) on top of drum resonators. The songs that were performed were ways of showing respect for the spirit of the bear, which in the Ute culture represents strength

Traditionally, the dances were directed by a dance chief and his assistants. Their role was to encourage the women to choose male dance partners and to keep people focused on the dance and participate. Dancing occurred during the day and women selected male partners and danced opposite to them; the men formed one line and the women formed another. As the dance progressed the original two lines spilt into several smaller lines. Towards the end of the dance Jorgensen notes, “Finally couples broke off from their respective lines and while the man put one arm around the woman’s waist and she one arm around his, the dancing became very athletic—the men trying to exhaust the women completely and vice visa,” (Jorgensen 1986: 663). The dance ended with a large feast sponsored by the host group. This social dance represented rebirth and renewal that is part of the arrival of spring.

Ridges Basin and Non-Indian Travelers

Ridges Basin was an important area for both the Ute people and for the non-Indian people who ventured through traditional Ute territory before the official opening of the OST in 1829. The first officially sanctioned expeditions into Ute territory occurred in the mid 1760s but after many years of tensions and conflicts.

Conflict was a major issue in the early 1700s between the Utes and the Spanish. Each time Ute raiders attacked Spanish frontier settlements, the settlers and the colonial government retaliated against the Indian people. These actions created tensions and

negative relations between the two groups. In order to curb the violence, promote peace, and maintain the extremely important trading relationships, Governor Tomás Vélez Cachupín formed an alliance with the Utes to alleviate the violence and end raiding. He reached an agreement with the Ute leaders which established a self-monitoring plan. Under this plan, if Ute people conducted raids, punishments would be carried out by the Ute leaders instead of the military force and stolen items would be returned.

With peaceful relations established, Cachupín sanctioned two official expeditions into Ute territory. The first expedition was authorized in 1765 and it was to be led by Juan Maria Antonio Rivera. Rivera’s journey was stemmed by the account that a Ute man had traded silver ore to a blacksmith in Abiquiú. Rivera’s goal was to find the source of the silver. He was also ordered not to describe portions of his trip through Ute territory in order to keep the route a secret.

During his expedition, Rivera reached the Animas River in early July. Along the river he encountered a Ute settlement. He had hoped on finding information regarding the Ute who traded the piece of silver in Abiquiú. He and his men distributed corn, pinole, and tobacco as gifts and met with the group’s leader. They learned that the Ute man was 5 leagues away in a Southern Paiute village visiting family and that there was another Ute community downstream along the Animas that might be more helpful in regards to the Spaniards mission (Sanchez 1997).

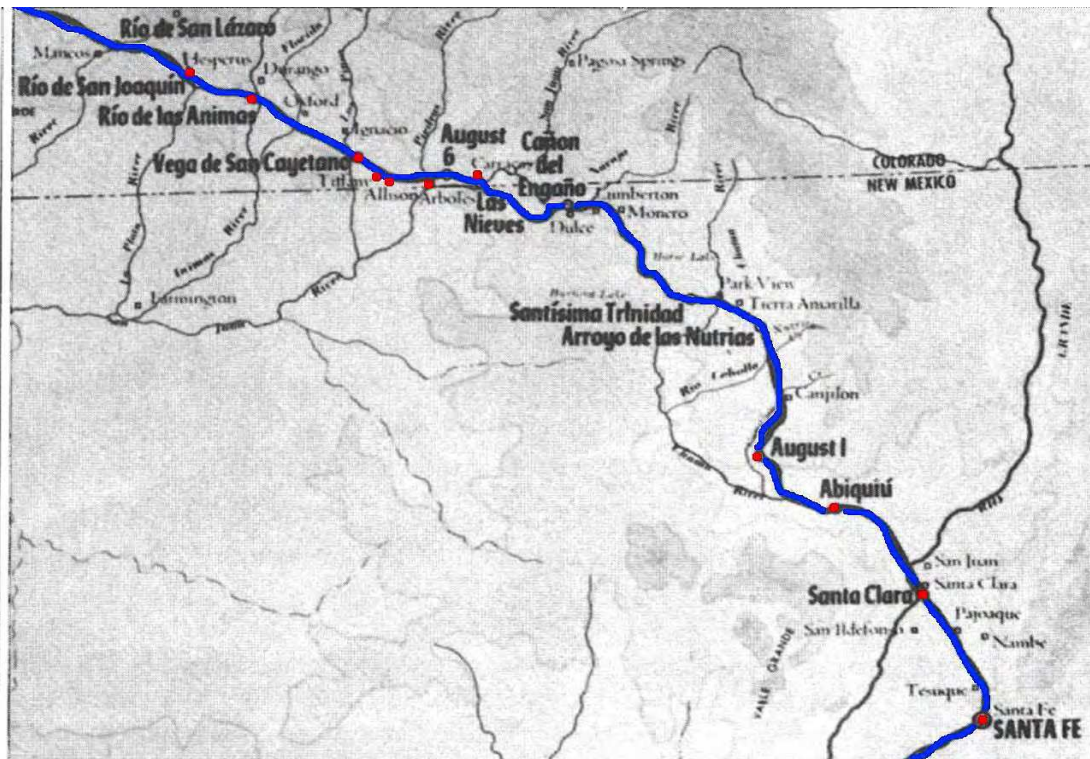


Figure 3.35 Dominguez and Escalante Route through Southern Colorado

One of the other early successful Spanish trips into Ute land occurred in 1776 when Fathers Dominguez and Escalante left Santa Fe to find a route to California. They

left the capital in late July. By early August they had reached the Durango area near the Animas River. In their diary, the Padres wrote:

August 9th: On the 9th we set out from El Rio de las Ánimas and ascended the incline west of the river, which, although it is not too lengthy, is quite difficult, consisting of plenty of rock and being very steep in places. We passed the small forest on its crest, which it must measure a little more than a quarter of a league. We entered a narrow valley to the west and turned west by northwest; then, after going three leagues through a leafy forest of good pasture (Ridges Basin), we reached El Río de San Joaquín de la Plata by another name which is small and similar to the one which passes through El Pueblo de San Geronimo of the Taos Indians (Dominguez and Velez de Escalante 1776: 13-14).

Figure 3.35 shows the route the Padres traveled as they passed through southern Colorado and through Ridges Basin. The Padres offered some insight as to what the area looked like prior to the OST period.

The Utes had already lost control of their traditional trading trail and parts of their territory when the trading caravans began to pass through this portion of Ute territory. The trading relationships the Utes had with the non-Indian people in New Mexico changed. When the Utes tried to exchange items with members of the caravans the Utes were denied, though the Mexicans encouraged and participated in trading endeavors with the Utes near Santa Fe. In his diary, American traveler, Orville Pratt noted:

Wednesday August 30, 1848: Stayed all day at Abacu. It was a time of general gathering of Spaniards and Indians to observe some feast day known to the Catholic Church. Saw some Apaches and Eutes – perhaps 50 in all. The Apaches and Eutes professed great friendliness. I made some presents to them worth in all about \$5. Private property—the Spaniards evidently were the part of the crowd. Had to buy the animals \$5 worth of corn—no grass (Pratt 1954: 346).

By 1848, the Utes had been subjected to 200 years of encroachment, aggression, and diseases. Frustrations began to build and the Utes became angry and this affected how they interacted with people traveling along the OST. By 1848, the trail had become the main route to California for Euro-Americans. Pratt documented in his diary a failed trading attempt with a group of Utes near Ridges Basin.

Friday Sept. 8, 1848: How rapid time flies! Almost two weeks out and not yet 200 miles from Santa Fe! This is slow moving & an improvement must be made or our rations will fail us sure before reaching California. Met a large number of Eute Indians on the Los Animas—We tried to trade with them but without success. Made a march of 30 m. & camped on

Silver Creek, one of the loveliest streams I think I ever saw. Fine grass and water (Pratt 1954: 347).

Pratt's diary documented a major change that was occurring amongst the Utes. The Utes once dominated and controlled all non-Indian trading activities that were occurring in their territory but diseases and other encroachment impacts took their toll. Focus was shifted away from engaging in trading activities to protecting the people from outsiders, even if it meant passing on opportunities to trade with outsiders.

3.11 HESPERUS-LA PLATA CROSSING

The Hesperus-La Plata Crossing is located near the junctions of Highway 160 and 140 in the town of Hesperus (See Map 3.9). This site is located along the banks of the La Plata River at the base of the La Plata Mountains. As the OST passed through this site, it follows the narrow valley before heading northwestward towards the Green River and the Utah border.



Figure 3.36 The Hesperus-La Plata Crossing Area

Geology and Ecology

The crossing is at the junction of three distinct geologic groups, the La Plata Mountains, the Mesaverde group, and terrace gravels. To the north, this site is located at the base of the La Plata Mountains, where the headwaters of the La Plata River are located. The La Plata Mountains are composed of a variety of deposits and geological intrusions. The late Cretaceous and early Tertiary intrusions are twice as old as the volcanic rocks of the San Juan Mountains which are approximately 25 million years old (Chronic and Williams 2002). Many of the small intrusions found within the La Plata Mountains are composed of sills and laccoliths and they are squeezed between layers of red Pennsylvanian and Permian strata with dikes and stocks cutting across them. Dikes and stocks are intrusions of igneous rocks. Some sills measure several miles long and near these sills are metallic mineral deposits. Silver is the most common metallic mineral found in the La Plata Mountains, as is evident by the Spanish name, plata, meaning silver.



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MN (10.5° E)

0 400 800 1200 1600 2000 2400 2800 ft
Data Zoom 13-7

Map 3.9 The Hesperus-La Plata Crossing Area

The Mesaverde group dominates the western and eastern portions of the site. This geologic grouping consists of sandstones that were deposited on beaches, coasts, and bars of the retreating Cretaceous sea prior to the rise of the Rocky Mountains. The banks of the La Plata River are comprised of the third type of geologic group, the terrace gravels. These gravels were deposited by the river currents over the course of many years (Chronic and Williams 2002).

The Hesperus-La Plata Crossing is part of the Great Basin Montane Scrubland and it is found in the higher foothill and mountain regions ranging from 7,500 feet to 7,800 feet. This ecological community is commonly found in New Mexico, Colorado, Utah, and Nevada. This community is especially prevalent on mountainous slopes near Durango, Colorado. It is typically situated on the altitudinal gradient above the Great Basin Conifer Woodland but below the sub-alpine forest. This community is dominated by scrub species, particularly Gambel oak (*Quercus gambelii*), mountain mahogany (*Cercoparous montanus*), serviceberries (*Amerlanchier* spp.), and chokecherries (*Prunus virginiana*).

Summary of Interviews

Representatives from the Southern Ute Indian Tribe were interviewed by UofA ethnographers at this site. During the interviews, tribal representatives discussed the use and meaning of the Hesperus-La Plata area and how it was impacted by movement along the OST.

Southern Ute Tribe	Male	Female	Total
Southern Ute Representatives	1	1	2
Total	1	1	2

Table 3.8 Interviews on Hesperus-La Plata Crossing

Native American Comments

Traditional Uses of the Hesperus-La Plata Crossing

When asked, “Would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- [Near Hesperus] *It would have been a gathering and hunting area through here. Maybe it was just a place to get away from the heat. Because it’s nice and high and probably very cool. It would have been a good summer place.*
- *This area was just a crossroads because my bunch is from over there by Colorado Springs. My great grandfather was Charlie Buck. [The old Indians...would they go to a high place like a mountain to get songs and visions?] Yeah! They all did that because the high mountains...that’s where we lived...in the high mountains. That’s how that Bear Dance was created...the two brothers used to go up to the top of the highest mountain. It was peaceful up there and at the same time also you’re closer to heaven...you can see all around. While they were up there, they could see the bear down below. One brother used to say that some day; they would be with the bear down below. The other brother said*

that it was just hogwash. Until one day it just happened; he said, today is the day that I got to go. You have to go home alone. Right away, our people are going to kill me. We never went out into the wilderness alone because if something happens to you in the wilderness, unknown...a bear attacks you, or kills you, or cripples you, the other ones carry you out. If they wanted to go see that Kodiak bear, they went alone and they met that Kodiak. Kodiak, the bear, who ever you want to go see, knows you're coming. If you come and bring the army, they're not going to respond. They know before you even start. That's why you can't bring or tell nobody, you just go according to what you're directed to do. And you follow every step of the way - do this, go that direction. We get that direction from where you're going to talk to. [The bear tells you how to get there?] Yeah you can read them - mental telepathy. He can tell you how to approach it...don't bring any other or he will be gone if you bring another person. It's you...you are the one that wants to acquire what's in question. You never bring an army...it's you who wants that power given, your quest. You have to go. You never reveal it. Once you reveal it, you lose everything.



Figure 3.37 The La Plata River

Hesperus-La Plata Crossing Place Features

When asked, “What resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	NR	List and Describe the Use Each Specific Feature
Was this site a source for water?	1	1	<ul style="list-style-type: none"> Indian people would have used the river for transportation...maybe going back and forth from different areas...but I'm not sure because it looks too rugged. Maybe it was just a water source because I'm sure you couldn't grow anything up here, a little bit too cold.
Was this site a source for plants?	1	1	<ul style="list-style-type: none"> Indian people would have used poles...like teepee polls, maybe wood, berries. Chokecherries...I see them right there on the right. I don't see any piñon trees. [How about the big bush behind you?] See these are chokecherries. In the summer you can see them. In the fall, they get really dark red. They used to make pemmican out of it. They used to use rosehips. [What about the wetlands?] Willows...if there's willows because in the spring they gather all the willows and they make those head things for the cradleboards.
Was this site a source for animals?	1	1	<ul style="list-style-type: none"> (They made pemmican out of chokecherries...what would they need to hunt to make the pemmican?) Deer. (So they'd come up in the fall and do the deer hunting?) No. There's deer up here all year around. (So any time summer...so when's the chokecherries most likely?) In the fall. (What do they beat the meat?) Yeah they kinda dry it all together. They put the meat in it and sinew and then they dry it up. And they pack it with them. I think the white people call it pemmican...I don't think the Indians call it that. I think they would have dried all their meat up here, see because there's deer up here. I don't know if there was elk. I've never seen it. Sometimes they go down into the Durango area...I don't know if they have been down to Ignacio....no I don't think so.
Was there evidence of previous Indian use at this site?	0	2	
Did Indian people use the geological features at this site?	1	1	<ul style="list-style-type: none"> The mountains would have provided protection from maybe other tribes. I think this would have been a place they went up into when the caravans were traveling along the trail because I think most of the time they followed river. The water was their lifeline. Paint...you have all different colors and they come in little balls and you can see them in that dirt. [On the wall?] On where the water has washed away the dirt and it's cut like that. We used to chip them out and use them for chalk. They are so fine that they crack up...yellow, red, green. And we used to pick them like that. [Would this canyon have any paint?] This canyon may have paint where there is dirt. But they come in little round balls.

Table 3.9 Hesperus-La Plata Crossing Place Features

Regarding geological features at this site, Indian people also said:

- *You have the ability to recognize the breeze. Sometimes that's how those guys create songs. You can hear the song where the breeze comes out. The breeze is created and you have the ear for it like a musical ability. You can hear it and you can make a song out of it. Well it's actually coming from the wind.*

When asked, "Are there places traditionally used by Indian people near by that are connected to this place," Indian people responded:

- *There are probably connected places because of the mountain. Maybe it was an identification marker for travelers. I would say it would serve as an identification marker. Maybe they'd know, it was time for us to go back to this area and they could find it easily.*
- *The only time the Ute people gathered over there...remember when we talked about that Council Tree in Delta...that's where they would gather under that tree and they decided where they were going to have a Bear Dance for that spring. So Spring and March they would gather at that location from all over, we come from the east, and those guys come from there and those guys come from the south. [Were there places that were too powerful to go?] Well the Utes participated in the Medicine Wheel in Wyoming. The path to the medicine wheel is marked with rock art. The trail is right there on the Continental Divide...that's where we went. Also on my property, where it [The OST] comes off near my place, right down by the river, there is a horse corral down there, they held the first Sun Dance when they came, right there. And then later, the house burned down. See you're not supposed to build a house on a [sacred] historical site. Black Cain was the one who brought the Sun Dance over to this tribe. Well his name in Ute is Tuunap-tee-turp but we just translated it in English. He thought the site was a logical location.*

When asked, "Are there traditional Indian trails connected to this place," Indian people responded:

- *I would think it was connected by trails. Maybe it is connected to Northern Ute...who knows over this mountain...maybe just following this river would get you to another Ute trail because the Utes used to roam all over this area...all over Colorado. So I'm sure that this used to be one of their trails...even going as far as Denver and maybe into Wyoming. They had trails to resource areas because if they had trails to other tribes, they would trade resources. Ceremonial trails...yeah. I think that all tribes had, not so much, the same ceremonies, but I think they shared their ceremonies with the different tribes...not all of them, but some of them. You know like maybe for births, they would share...invite people to come and share in that. But maybe not the real strong spiritual ones...no probably not. Trails to medicine areas but only certain people could go on them. I think you are usually invited or initiated then you could take those routes.*
- *The Creator's idea of recreation was creating a trail so we had to follow him. He said that this was the way the trail goes, this was the road. That was his game. [The Creator?]*

Yup, it was just his own imagination. We were the ones who worked for him. The Creator would put resources in certain areas and that would be the trail.

Impacts to Hesperus-La Plata Crossing

When asked, “When non-Indians began traveling through this place, did their presence affect the Indian people who used this area, and what kinds of impacts did they have,” Indian people responded:

- *I think that you know that we talked about, they [the white people] tried to claim ownership of areas that were originally Indian, Indian paths and then it also opened up the area to other travelers. [So, it went from being a small narrow and private Indian trail to being a huge freeway of traffic?] Uh huh. It probably became an area where they [the non-Indians] didn't have to explore different routes, the routes were already there.*

When asked, “What impacts, if any, did the presence of the non-Indian travelers have on the water at this site,” Indian people responded:

- *The water...no. This La Plata River gets really dry during the summer...even that...they probably didn't realize that there was water but there wasn't enough for everyone.*

When asked, “What impacts, if any, did the presence of the non-Indian travelers have on the plants at this site,” Indian people responded:

- *Yeah the non-Indians probably impacted the resources. You know maybe the resources were limited...I'm just talking about food and the deer and elk or whatever...maybe even the food stuffs...you know like we were talking about the chokecherries. I think those would have been affected.*

When asked, “What impacts, if any, did the presence of the non-Indian travelers have on the animals at this site,” Indian people responded:

- *Yeah the non-Indians probably impacted the resources. You know maybe the resources were limited...I'm just talking about food and the deer and elk or whatever...maybe even the food stuffs...you know like we were talking about the chokecherries. I think those would have been affected.*
- *The Spanish when they came across, they claimed everything was theirs even the highway. Even the one that started out in Mexico City [The Camino Real]. Any other Indian caught on it; they tortured him, cut his throat because that way the Spanish did things. They called it the Government Road in their own words and there wasn't anybody else traveling on it...there were no other Anglos involved. That's the way they treated the Utes, the mistake was we attacked them. And since then we were deprived of killing deer. So when the archaeologists write we ate bugs, it was because we were forbidden to kill deer and if we were caught killing deer our throats were cut. We actually had three flu epidemics, and since our diet was poor, most of the Utes were wiped out.*



Figure 3.38 La Plata Mountains

When asked, “Were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *The mountain may have been impacted but probably not as much as the other places so you know it wasn't really explored that much. And I don't think it would have served their purpose to come this far up. As for the Indians, they probably enjoyed coming this far up and it was their area to rest and enjoy.*
- *I told you about where the massacre occurred...the Spanish...that was cursed. They [the Utes] always put a curse on it because I asked my dad about it...there's a lot of bones around there along the horse trail. Nobody's ever revealed it. There were these three guys, three Anglos, went out there and went into a hole...they got away with a lot of gold but they never enjoyed it because they all got killed. That was because they went into a forbidden area. [Remind me again...that was a hole in the ground right?] Uh huh [it was a deep cave?]. . .yeah something like that. [Was it like a home of the wind?] No it was a mine dug by the Spanish. The Utes put a curse on it because all it did was bring trouble. Like I said they had no use for gold.*

When asked “If Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people go somewhere else to replace activities formerly done here, where did they go and why,” Indian people responded:

- *For the travelers, it was way out of their way. They would probably go somewhere else if they couldn't use their traditional places. [Why's that?] I think that if somebody strange comes into your area, you might think it's tainted or witched. That could have been you know and they would have said, "Now we have to find a different place to live during the summer," or something like that. Or they might have fought for this place. They were little fighters. They could have walked up the road and created a little avalanche so people couldn't come back down or come back up. That's what would I would have done! Maybe make it look like it was not usable so you could keep it pure. You could have scouts on each side too.*
- *When the Spanish came through and picked it, it was already traveled by the Indians going through as evidence as a trail. So when it came into existence, the Spanish just took it over. Escalante was the first one that came in and when the Spanish first started coming through, they claimed it just like they did to that Indian trail from Mexico City north. And the way they tortured them [the Indians], they cut their throats.*

When asked "If Indian people could no longer use trails in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people find other trails to replace them and why," Indian people responded:

- *I think the trails were impacted by the non-Indian travelers because when others come and pretty soon it's not an Indian trail anymore and everybody starts using it. And not just white people but other Indians too who really shouldn't be over here. I think they would have created new trails. Also maybe they had other trails not just this one. So they had different alternative routes to get to places. Maybe this was just one of them. If they had to bring their families, this was an easier route...if it was just the men then it would be a different route. I think they had several different routes already. If not then they created new ones.*

Ethnographic Comments

Ethnographic comments are provided after the Native American Comments. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Interviews with tribal representatives engaged a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section focuses on traditional uses of the Hesperus-La Plata Crossing as both a gateway to vision questing sites as well as region of refuge during times of hardships. Southern Ute Tribal representatives interviewed at this site thought that this site would have provided both spiritual and physical sustenance during the OST period for Utes in the area. This section also draws on comparisons from other Numic-speaking groups to help further elaborate on the use of mountains as vision questing sites. The ethnographic are intended to further inform the reader regarding these issues, but are not to be considered as a complete analysis of the topic.

Numic-speaking people of the Western United States share a similar language and epistemological beliefs. To Numic-speaking people, the concept of power is fundamental to all aspects of life and is driving factor in the formation of relationships with people, places, elements and objects. In his article, "Basin Religion and Theology: A Comparative Study of Power (Puha)," Miller (1983: 79-89) noted:

Power is diffused everywhere in continuous flux and flow, which however, is not haphazard because, as an aspect of memory, power is rational. From all available evidence, the routes of concentrated power within generalized dispersion are web-like, moving both in radial patterns and in recursive concentric ones, out from the center and back again...The web image is reflected in the stories where Coyote assumes the form of a water spider to carry humans to land and Sun takes the form of a spider who is webbing the firmament of the universe...The web of power, however, is not static like that of a spider because the webbing actually consists of the flow of power rather than filaments per se. Rather, the web is pulsating and multidimensional, even having aspects of a spiral, some times regular and sometimes erratic, intersection with the radials from the center. This spiral movement is represented most graphically by an in-dwelling soul of a person that can be seen escaping the body at death as a whirlwind.

People in the Basin were most successful when their movements and the arrangements of their lives duplicated those of power. Without recognizing its full significance, many scholars have noted this web- or net-like character.

The attraction of power for like is such that any gathering...will concentrate it, while a closed dance circle contains it for some time... After such a concentration, a power apportions itself among the participants, going along with them as each takes separate trails radiating away from the central location. For this reason, trails in the Basin are sacred.

Puha is obtained in many ways; one such way is visiting mountain peaks for vision questing. To reach these peaks, a person must properly prepare themselves through spiritual and physical cleansing. This preparation involves traveling along defined pilgrimage trails known as Puha Paths. The journey along the Puha Path begins usually through a sweat or a cleansing at a hot spring. From there, the person seeking the vision sets out with a number of support people to help him or her survive the journey. Along the Puha Path were places for prayers and ceremonial activities like collecting water or medicine plants to take to other stopping points along the trail or to the destination place. These places and associated activities were just as important as reaching the mountain and achieving the vision. The places along the trail were critical steps in the pilgrimage process.

At the base of the La Plata Mountains, the Hesperus-La Plata Crossing served as the gateway to the mountain peaks. The crossing had abundant plant and animal resources that pilgrims could have obtained to use in ceremonial activity. The water from the river may have been collected to use for medicines or for purification of the pilgrims.

Explorers and Travelers at the Hesperus-La Plata Crossing

When the first non-Indian people arrived at the crossing, it was not the plants and water that attracted them to this area but instead the stories that the mountains had large silver ore outcroppings. The stories of silver ore had been circulating through northern New Spain since Rivera expedition in the 1760s. The stories became so legendary that when Dominguez and Escalante came to this area in 1776, the friars had to note it in their journal:

It rises at the same western point of La Sierra de La Plata and descends through the same canyon in which there are said to be veins and outcroppings of metallic ore. However, although years ago certain individuals from New Mexico came to inspect them by order of the governor who at the time was Don Tomás Vález Cachupín, and carried back metal-bearing rocks, it was not ascertained for sure what kind of metal they consisted of. The opinion which some formed previously, from the accounts of various Indians and from some citizens of the kingdom, that they were silver ore, furnished the sierra with this name (Dominguez and Velez de Escalante 1776: 13-14).

Almost one hundred years later, Orville Pratt traveled from Santa Fe to California along the OST. Pratt and his party camped along the La Plata River (referred to as Silver Creek). He commented on the vegetation and water available:

:

Friday Sept. 8, 1848: How rapid time flies! Almost two weeks out and not yet 200 miles from Santa Fe! This is slow moving & an improvement must be made or our rations will fail us sure before reaching California. Met a large number of Ute Indians on the Los Animas—We tried to trade with them but without success. Made a march of 30 m. & camped on Silver Creek, one of the loveliest streams I think I ever saw. Fine grass and water (Pratt 1954: 347).

Pratt's party was not the only caravan traveling along the OST to stop at this site. Given this area's lush vegetation and water, it was very attractive to the non-Indian travelers. It was the last ideal location for horses to feed and drink water between Ridges Basin and the Green River.

The La Plata Mountains as a Refuge

By 1849, the Utes had experienced many changes brought by OST traffic. The Utes responded to these changes in a variety of manners. Some responses were driven by resentment and anger. For example, these emotions grew as OST travelers and their animals depleted the natural resources. Horses and mules overgrazed upon grasses and the travelers and animals abused precious water along the trail. The Utes responded by capturing woolen goods and other articles from New Mexico or herds of horses and mules from California. This action was considered fair play by Indians who endured resource loss.

Sometimes, Ute people responded not by hostile actions but by responding to the physical and spiritual imbalances caused by the presence of non-Indian people. There were instances when the presence of non-Indian people in traditional Ute places caused physical and spiritual pollution and caused the areas to become out of balance. Pollution occurred when people treated places with disrespect and harm. Sometimes as a result places could no longer be used in traditional means and Indian people had to relocate into areas of refuge in the hinterlands. Decisions to leave traditional areas and move to areas of refuge were made by the Ute leaders. The leaders generally relocated their people to places that reduced contact with non-Indian people and afforded the people spiritual protection.

According to contemporary Ute people, the La Plata Mountains would have protected them during the OST period. This area of refuge was some distance away from the trail and thus the risk of encountering non-Indian travelers and the impurities they brought with them were greatly reduced. The La Plata Mountains not only gave them spiritual protection but it provided the Ute people with the natural resources needed to support and sustain themselves during this difficult period.

CHAPTER FOUR SOUTHERN PAIUTE SITE-BY-SITE ANALYSIS

Southern Paiutes, Utes, Western Shoshone, Owens Valley Paiutes, and Northern Paiute peoples all share fundamentally the same language and basic culture; thus, they are collectively called Numic speaking peoples. The notion of trails being made for Indian people at the time of Creation is shared; as well as the belief that the trail itself is alive and sentient. All Numic peoples had traveling ceremonies which involved speaking with trails and places along trails. Movement along trails was itself therapeutic.

4.1 Numic Epistemology: Puha

To Numic speaking peoples, the universe is alive and everything is interconnected through all types of relations, what anthropologist, Roy Rappaport (1999:263-271; 446) calls the “the ultimate sacred postulate.” The concept of the living universe is so fundamental that any discussion of Southern Paiute and Ute culture and social structure cannot occur without it. The universe is alive in a similar way that humans are alive and the universe possesses most of the same characterizes as well. The universe has discrete physical components such as power and elements.

As explained by Liljeblad (1986: 643-644), power is everywhere and is “a source of individual competence, mental and physical ability, health, and success.” Power is often referred to as *Puha*. This concept is common to the different tribes throughout the western United States. Numic speaking people such as the Ute, Western Shoshone, Owens Valley Paiutes, and Northern Paiutes have similar words in their languages¹ and it is a fundamental principle of their epistemologies as well. Such a concept of power is not limited to Great Basin and Colorado Plateau peoples, it is also a fundamental epistemological principle the nearby Yuman-speaking peoples such as the Mojave, Hualapai, and Havasupai.

The five tenets of Puha need to be explained in order to understand the role it has in Southern Paiute culture. Puha is derived from Creation and permeates the universe, which resembles a spider web. Sometimes it is like a thin scattering; at other times, it occurs in definite concentrations with currents where there are clusters of life. Puha exists throughout the universe, but it will vary in intensity from person to person, place to place, element to element, and object to object. This is similar to how strength differs among humans. Puha can also vary in what it can be used for and it determines the tasks certain elements (air, water, rocks, plants, animals) can do. Puha is networked; it connects, disconnects, and reconnects elements in different ways. This occurs because of the will of the elements that have the power. Puha is present in and can move between the three levels of the universe: the upper level- where powerful anthropomorphic

¹ Ute- *Puwavi*, Western Shoshone- *Puha* and *Poha*, Northern Paiute- *Puha*. The Chemehuevi and Southern Paiute are the same people with a common language. The word for *Puha* is the same.

beings live, the middle level- where people live now, and the lower level- where extraordinary beings with reptilian or distorted humanoid appearances live (Stoffle et al. 2001).

In his article, "Basin Religion and Theology: A Comparative Study of Power (Puha)," Miller (1983: 79-89) noted:

Power is diffused everywhere in continuous flux and flow, which however, is not haphazard because, as an aspect of memory, power is rational. From all available evidence, the routes of concentrated power within generalized dispersion are web-like, moving both in radial patterns and in recursive concentric ones, out from the center and back again...The web image is reflected in the stories where Coyote assumes the form of a water spider to carry humans to land and Sun takes the form of a spider who is webbing the firmament of the universe...The web of power, however, is not static like that of a spider because the webbing actually consists of the flow of power rather than filaments per se. Rather, the web is pulsating and multidimensional, even having aspects of a spiral, some times regular and sometimes erratic, intersection with the radials from the center. This spiral movement is represented most graphically by an in-dwelling soul of a person that can be seen escaping the body at death as a whirlwind.

Puha, while operating in a dynamic equilibrium within the universe, is also entropic (Blackburn 1974; Bean 1972; Stoffle et al. 2001; White 1963). This means that over time, Puha has gradually diminished since Creation in quality, quantity, and availability. The reason for this is that man has at various times treated it improperly, and has failed in upholding his responsibilities in the relationship he has with the interdependent system. Indian people believe that a very rapid loss of Puha occurred after the European encroachment. Knowledge concerning how to regulate relationships with powerful elements was lost through the processes of colonization. Despite this Puha is always retrievable in some form as long as new guidelines are established for obtaining and maintaining it.

In Southern Paiute and Ute culture, there are rules for handling Puha and powerful objects. These rules function to control the person with the Puha and prevent him or her from misusing it in one of two ways. First, power can only be used at proper times and in proper places and it must be used in accordance with standardized procedures such as preparation and pilgrimage to ceremonial areas. Secondly, people who have Puha and knowledge may withhold information on procedures for acquiring and maintaining power from uninitiated persons or persons who are deemed unworthy candidates. Stoffle, Zedeño, and Halmo (2001: 65) wrote; "the diversity and unpredictability of power was consistent with an ecosystem that was equally diverse and unpredictable, although often kind and bountiful in the resources provided by nature."

4.2 Southern Paiutes and Trails

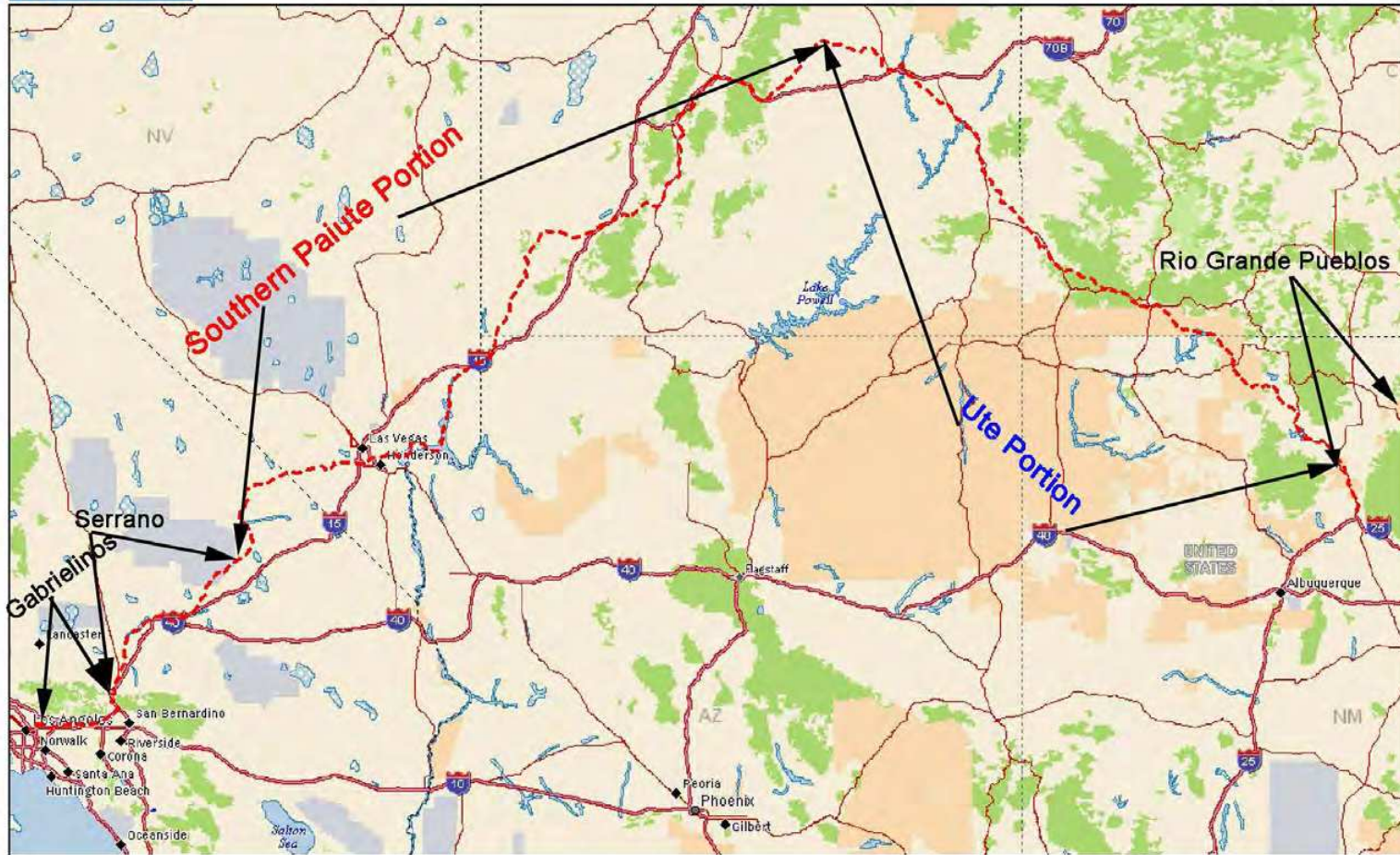
Travel along trails by Southern Paiutes was by foot; and in this respect they differed from their Ute cousins who predominately rode horses along the trails after the 1680 Pueblo revolt. All Numic peoples were robust land managers who created a surplus wherever possible from

burning, planting, and modifying ecosystems. Before the horse, Utes and Shoshone people were much alike with a slightly greater emphasis on hunting and gathering than on irrigated farming like their Southern Paiute cousins. The horse did not do well with unfenced gardens so a choice had to be made – Utes rode horses and made them the center of their new trading culture and Paiutes killed and ate horses thus protecting unfenced gardens and delicate springs. So from a largely common background, two ways of life emerged, each using trails for somewhat different albeit similar purposes. For hundreds of years the Ute people used the horse for trade with anyone, but they were especially interested in European goods coming from the Spanish south and French and English east. Southern Paiutes remained farmers but certainly were impacted by European diseases, which traveled along trade routes.

While the Utes rode and traded long distances, Southern Paiutes walked and farmed. This simple fact would cause very different impacts to occur when large caravans of mules, horses, and men would travel through Ute and Southern Paiute lands. In a sense, the Utes served as a buffer for the Southern Paiutes by controlling trade and traders who traveled along the trails from the Rio Grande River. While the Ute people became increasingly dependent on horses and trade, Paiute people remained largely the same irrigated agriculturalists they had been for a thousand years. Where Utes became involved in new kinds of alliances and hostilities, Paiutes remained at arms length from the conflicts in Northern New Spain and coastal California.

This is the second chapter in this report to describe and analyze site-by-site responses provided by representatives sent by the involved tribes to places along the Old Spanish Trail. This chapter is focused on Southern Paiutes, but it is important to point out that there are important and largely unrepresented Indian issues for the Serrano and Gabrielinos people who live near the terminus of the OST (Map 4.1). This chapter continues to describe Indian places located along the OST beginning approximately at Castle Dale, Utah, continuing through central and southern Utah, across much of southern Nevada, and through most of the Mohave Desert in Southern California. The places visited in this chapter were selected in consultation with the involved tribes and their tribal representatives. Some places were known from previous studies to be both on the OST and culturally important. Available study time and resources did not permit visiting all places of cultural importance located along the route, but the ones visited do represent the range of the types of places occurring and impacted along the route.

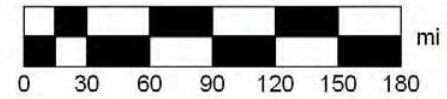
One difference between those portions of the OST that were discussed in the previous chapter and those in this chapter is the aridity of the area. This climatological condition has two implications for the study. First, in very arid environments there are fewer choices for foot and animal travelers – they tend to move along very circumscribed trail segments (Figure 4.1) occurring between small but predictable sources of water (Figure 4.2). Second, because through time similar topographical and climatological constraints continued to impact the placement of travelers and trails throughout time, contemporary Indian people often know exactly where the earlier travelers passed along the Indian trails and have very place specific stories about these events.



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Map 4.1 Ethnic Affiliations along the Old Spanish Trail



Figure 4.1 Arid Stretches of Old Spanish Trail (in center) across Mohave Desert



Figure 4.2 Old Spanish Trail at Oasis of Resting Springs in Mohave Desert

Site-by-Site Summary

During the Southern Paiute portion of this study, 14 sites were visited and 18 representatives from five Southern Paiute tribes participated. The Pah Hu Wichi site was from a previous study and was added raising the total number of sites to 14. This was done because Pah Hu Wichi is centered on the three large springs in the Las Vegas valley and it is a significant place for understanding the importance of springs to Southern Paiute people. The following table (4.1) details the chronology of fieldwork and number of interviews by site and by tribe. One hundred and forty-one interviews were completed with Southern Paiute representatives.

Date	Sites	Las Vegas	Moapa	Chemehuevi	Pahrump	PITU-Shivwits	PITU-Koosharam	Site interviews from Previous Studies	Total
<i>Jun. 2006</i>	Salt Cave	1	2	2					5
	Stuart Ranch	1	2	2					5
	Pah Hu Wichi							36	36
<i>Jun. 2006</i>	Cottonwood Spring	1	2	2					5
	Mountain Spring	1	2	2					5
<i>Jun. 2006</i>	Stump Spring				3				3
	Resting Spring				3				3
	Tecopa				3			3	6
<i>Jun. 2006</i>	Dumont Dunes			2	3			1	6
	Salt Spring			2	3			2	7
<i>Jun 2006 Oct 2006</i>	Piute Spring			3	1			32	36
<i>Oct. 2006</i>	Camp Spring					5		3	8
	Solar Calender					5		3	8
<i>Oct. 2006</i>	Rochester Panel						3	5	8
TOTAL		4	8	15	16	10	3	85	141

Table 4.1 Chronology of Field Work and Number of Interviews

Site-by Site Discussions

In this portion of the chapter, we discuss each of the 14 sites visited. The sites are listed from east to west, as a traveler would experience them on the way to California. Key in each of these site discussions is the contemporary cultural evaluations made by the tribal representatives. The UofA team contextualizes these evaluations with (a) descriptions of the sites geology and ecology, which is a physical description and a map to orient the reader, (b) a summary of the

Indian interviews that occurred at the site, and (c) ethnographic comments which brings in document analysis and ethnographic insights from the UofA team's three decades of experience working with Southern Paiute people.

4.3 ROCHESTER PANEL

The Rochester Panel is a large rock art site found in central Utah, near the towns of Emory and Moore. The panel overlooks a low lying area near where it is traversed by the OST. It is situated at the point overlooking the Muddy and Rochester Creeks. The name Rochester Panel is misleading because the site actually has multiple rock art panels. Approximately one mile from the Rochester Panel is a large riparian area along the Muddy Creek. This area would have been a logical resting place for travelers and their animals before and after they crossed the Wasatch Plateau.

Geology and Ecology

The Rochester Panel is part of a small rock outcrop which is located on one of the largest sections of low lying land in eastern Utah known as the Mancos Shale Lowlands. Geologically, Mancos Shale is a soft gray siltstone, which was formed during the Cretaceous period (Stokes 1988: 133). This flat land has been noted for its horizontal “S” shape which stretched from Emery County to the Utah-Colorado state line. The shale lowlands form a broad border to the west and north and northeast sides of the San Rafael Swell. On its eastern edge, it runs parallel with the Book Cliffs. The lowlands are transected by a few permanent streams and rivers and numerous intermittent washes that drain out from the higher country to the west and north.



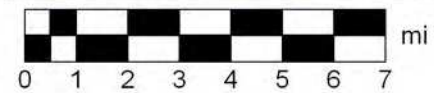
Figure 4.3 BLM Representatives and The Rochester Panel



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Map 4.2 The Rochester Panel and the Surrounding Area

The western edge of the Mancos Shale Lowlands is part of the eastern edges of the Wasatch Plateau. The Wasatch Plateau serves as a transition zone between the Colorado Plateau region to the east and the Great Basin region to the west and its drainage system is one of the major characteristics of this geologic feature. The western portions of the Wasatch Plateau drain into Sevier River and Sevier Lake watershed. The eastern slopes drain into a series of canyons and valleys, which contribute to the Green and Colorado Rivers and their watersheds.

The Rochester Panel is found in the northern Colorado Plateau region and has vegetation that reflects the saltbrush biotic province (Dice 1943). This is common throughout the lowlands of the northern Colorado Plateau. This region experiences limited rainfall which produces numerous salt tolerant species which are interspersed with scattered oases where sub-surface water allows marshland vegetation to occur.

Summary of Interviews

Representatives from the Koosharem Band of the Paiute Indian Tribe of Utah were interviewed by UofA ethnographers at this site. During the interviews, tribal representatives discussed the use and meaning of Rochester Panel and how it was impacted by movement along the OST. Included in Table 4.2 are cultural landscape interviews conducted at the Rochester Panel during the Quitchupah Creek Coal Haul Ethnographic Study. The landscape interviews were used as a way to contextualize the Quitchupah Creek-Rochester Panel area and its importance in a larger traditional Southern Paiute cultural landscape. Statements from that project are included in the Native American comments below as a way of understanding the interconnectedness of places throughout the Southern Paiute Nation and how they could have been impacted by the travelers along OST. Table 4.2 details the breakdown of interviews by tribe and gender.

Southern Paiute Tribe	Male	Female	Total
PITU- Koosharem Band	0	3	3
PITU Interviews from the Quitchupah Creek Study	2	3	5
Total	2	6	8

Table 4.2 Interviews on the Rochester Panel

Native American Comments

Traditional Uses of the Rochester Panel

When asked, “Would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- *It’s perfect. Just seeing how everything is. They most definitely used it a lot. I bet there was a lot of uses cause I seen some teas. There’s tea here, and then these. It just seemed like a perfect place. I mean even right now I’m thinking of a picnic. So, yes. And the path*

too, the trail, yeah, I wouldn't be surprised if it was used a lot, and the river down below... They got their water from the river. They used it for everything. Water is like gold; it is valuable... Just visited, I don't think that they would live here, no, just visited. It had its purpose. This is here for a reason, its purpose... They came out here for that purpose, whatever may be.



Figure 4.4 Overview of Main Panel

- *This is very impressive! The rainbow pecking might represent a river or the people coming by. It looked like a picture in her father's book. One looked like a medicine man at the middle on top. It looks like he has a gourd in his hand and his arm over his head (Figure 4.5). One looks like a person swimming down. The circles could be days or nights. The bent over figure looks like an old lady being carried (this panel is opposite the Rochester Panel). The painted figure means they had died (See Figure 4.6)*



Figure 4.5 Medicine Man Pecking



Figure 4.6 Painted Figure

- *Yes, I think so, with all the writings that's written on the wall, on the rocks. Just probably the water that's here, they probably would have come here for. I don't if the water was clearer then, but now it doesn't look so clear. I would say probably for seasonal [camping] it looks like to me. To me I feel like it is [a powerful spot] I mean, there's some*

feeling that I have it's like it's somewhere. It could have been a powerful place. Well if they found out about it, they probably would [have traveled great distances to get there]. I would think that they probably, you know, as you say, the trail and if they passed by it all the time, then they would probably if they found out all this water and if it, probably in the summertime, it probably is really pretty because it's probably green and it's probably a good place in the wintertime. It looked like it would be, you know, safe from the wind. This looks like a good place for ceremony. It's surrounded by rocks and I know its hard to get in, unless people find you.



Figure 4.7 UofA Ethnographer and Southern Paiute Representative

- *Yea, that is the only way they could write down what they did, you know, what they went through, and then I think that's the only way they could do things because how were they gonna get paper and pencil and write down what they did. The only way they had to write down what they did was, you know, by rocks...that area up there, nobody bothering them, and they had their ceremony or praying.*
- *The Rochester Panel...the symbols are the same (as Quitchupah Creek). They were drawn by the same people; I'm sure (Stoffle et al. 2004).*
- *Rochester Creek and a canyon towards Cedar City are connected to Quitchupah Creek through the rock art (Stoffle et al. 2004).*

Rochester Panel Place Features

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	3	0	<ul style="list-style-type: none"> • <i>They would have used it for bathing and stuff. You know, wash. I think they could have because they would boil their water.</i> • <i>Yea, source of water. Probably, you know, like everybody else, drinking, or food, or bathing.</i> • <i>Everything that you could use water for. It was, you know, just everything.</i>
Was this site a source for plants?	3	0	<ul style="list-style-type: none"> • <i>Probably, if there was like berries. Sage, they use that for tea also like to make you, it's a, whatever ails you, or you know medicine purposes. And the willows, if they, you know, cause I think when back then, they made cradleboards and for the newborn to lay in, so they wouldn't have to be out of there, you know, when they are doing something, but they will always be taken care of, not everywhere. We still do that nowadays. Well, I do, anyways. I make the cradleboard. Out of the willows right down there. Baskets, it's hard, but it's good. It takes a lot of patience to find the right kind of willow and stuff.</i>
Was this site a source for animals?	3	0	<ul style="list-style-type: none"> • <i>Deer, [rabbits], uh huh, and the goats. I think if that rock says they had goats I guess, you know, there was quite a bit. Deers, I think they would have had quite a bit of that too.</i> • <i>Rabbits or deer- you see a lot of that on that thing, the panel. Maybe many years ago they used to be, they say, that a long time ago they used to have those big creatures and stuff like that, but they don't, I guess, you know, through the years they probably just died.</i>
Was there evidence of previous Indian use at this site?	3	0	<ul style="list-style-type: none"> • <i>To write down the history, and what they did. I think they would [have had ceremonies to record this]. Yes, they would have to have a medicine man.</i> • <i>When they knew they were gonna do petroglyphs, they did it where they knew it was gonna be protected, where, you know, they did it on certain sides of the walls where it would get corroded, and they just, and I know, I'm pretty sure that over the years, you know, they would do their peckings, and then they would do some more. They would add on, you know like a history, like a book, you know, add on. Keep adding on as years go by, so that it tells a story of what had happened and what is to happen. They were here for a purpose, they put them here for a reason. They find rocks I think they just find rocks that would be protected over the years, you know, cause look how many years they've been around. They've been here for so long. Bear and other signs can represent people and activities of the people.</i>
Did Indian people use the geological features at this site?	3	0	<ul style="list-style-type: none"> • <i>Probably the trail that we're walking in, and then they made their own too.</i> • <i>Because how its location is, the water is down below, and you can see from this side, that side, and its just like, its just all these rocks. It seems like it's a castle, like this place really meant something. You can stand from over there where we're looking at it, you know it just like pointed like this place is something, really something.</i>

Table 4.3 Rochester Panel Place Features

Regarding plant resources at this site, Indian people also said:

- *Sage, yea, there was that sage I saw. Uh-huh. Sage and teas, and I was looking at the plants, and oh, the pine. I don't know. Sanup yea, they use that, they would umm, well that's used for a variety of thing too. I know that they put them, they burn it too, and they use it when they make umm, hold things together... They used that sanup for their moccasin. They'd put it on their moccasin, the foot of their moccasin, then they'd put it in sand, and it would make their soles a little bit stronger, you know, last longer. So, that was used for a lot of stuff. Boiling, they'd make it, you know, in their baskets once it got melted down... The willows... So I know sage was used for a lot of stuff, very useful.*
- *Cactus, if they knew how to cook the cactus, you know, plants, I see cedar, sagebrush. Sagebrush, we could use it for medicine. There is some certain sagebrush you can use it for medicine, but you have to boil it. And it works onwhatever ails you... They use it now too, cedar tree, for spiritual and ceremony, and you bless yourself with that. The cedar was used for medicine and now they use it for spiritual purposes and have ceremonies and you bless yourself with that.*



Figure 4.8 Southern Paiute Representative and UofA Ethnographers at the Rochester Panel

Regarding animal resources at this site, an Indian person said:

- *I think this was mountain lion country, deer...There was snake. Remember that one year we saw snake. I know back then we ate a lot of insects, the bugs. The fish...there would*

have been beaver. Remember when we went to Quitchupah, we didn't see any, but then we saw that they were building one there. So, we saw one house, one beaver. Woodchucks, I know there was, um, they ate a lot of rockchucks or woodchucks, whatever they were called...even deer hide, when we first did deer hides you know, just doing that and you think you know, but then we're always learning something, you know, finding something different to do and it seems to work better. Like she was saying, her grandma used to boil her brains, her deer brains, and she'd put eggs in it. So, where we fry ours with um lard. So I guess there's a variety of ways you can, people had their own way of doing it, their own technique...oh Rabbits too, there's got to be lots of rabbits here too. Rabbits were a delicacy; even I remember eating rabbits, hunting rabbits in the car when I was little living on Shivwits.

Regarding previous Indian use at this site, an Indian person also said:

- *Like the rock, the drawings, the whatever you call it. To me, yeah, it kind of like tells a story. That's what I've been told. Of how they go through, like the winter, like the fall or somebody got hurt as they travel from place to place and killing, you know, the killing the deer, what kind of animal that they had, or I think they had a mountain goat on there, you know the horns. I saw one of them that looked like a ceremonial man, what do you call them, medicine man, he was over, like he was blessing, blessing something. Maybe some went on that side, you know left some over here, and maybe, I'm thinking but, there could have been an earthquake, or something, and separated these two. Maybe these were together and maybe this was, maybe this was a lake. And maybe I don't, you know, maybe across there, no seriously, look over there, it's like its connected over this place, but then see that one right there, could have been here and that could have been there, but then who knows. They could have made the trails. Maybe it wasn't like this, maybe they had a trail, and all of a sudden, you know, a little earthquake, and just washed up the trails. They used to travel together. It could have been like a scout or something, you know, go ahead, or do the marking, or he's telling a story. That's what it's all about, that thing, just telling a story.*

Regarding geologic features at this site, an Indian person also said:

- *The valley, I would say, cause they would, I think my grandmother used to say, they always go by the wate , you know, so they could have water to do their, drink and the horses. I would think that would be important. It'd [rock found there] be easier to whatever they were using, I think, probably a flint or a sharp rock, or that's what I would think. [antler?] Yea! That's good, that's a good one. I was trying to think of what that thing was. Yea. Antlers, that's a good one. That's probably a lookout point, that's what I would think. Is that a cave over there? Right over there. It's been looking at me. Yea, that's probably where they, you know, if you were hiding from something or if it's, maybe if there's a flood.*

When asked, “are there places traditionally used by Indian people near by that are connected to this place,” Indian people responded:

- *I've seen a lot of things over there where we went to [Quitcupah Creek]. I think they would have camped there, because that was like a nice area to be. Around in there planning, learning.*
- *Yea, Quitcupah, that is, Fish Lake, that is, besides here and Buckskin, where he's talking about.*
- *There should be some connection to the Spring Mountains because water connects the places (Stoffle et al. 2004).*
- *Hot Springs...south of Monroe, 5 miles or so...south of Richfield...big event. It is important for people to travel there...it is the closest hot springs (Stoffle et al. 2004).*
- *The Rochester and the Muddy...water connects everything. They are all connected (Stoffle et al. 2004).*
- *Everything is connected through the rocks, and the mountains and water. Everything was once connected until they started making roads and renaming things (Stoffle et al. 2004).*



Figure 4.9 Southern Paiute Representative Examining the Rochester Panel

When asked, “are there traditional Indian trails connected to this place,” Indian people responded:

- *Probably was, had to be, how else were they gonna write their... They probably just went through and traded whatever they needed for food and got what they need. The leader, chief, and they tell their warriors to go trade.*
- *Trails to resource areas, trails to settlements, other trails, pretty much all of them.*
- *I would think so, yea. Cause they have song about where they been, and who they saw. I would think so. I mean, cause it's right down in a, you talking about this place right here? Yea. I'm thinking maybe if the water, if this was a whole water thing, not that little lake, and if this was the whole water, then, I don't know, what would they be. If there was water, big lake, then it probably would have been different. But then throughout the years, then no water. I think they would have stayed close maybe, yea. If this was about probably the only place or the closest place that you can get that plant stuff, I think that they would maybe send somebody to get it. Seems like they found all the hiding places [to live there]. Maybe it had something to do with the rocks or the soil, it could be.*

Impacts to Rochester Panel

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area, and what kinds of impacts did they have,” Indian people responded:

- *I'm sure they did. I'm sure they [the Indian people] looked out, they watched, and they probably did try to scare them away, but you know like we were talking, I said, I doubt that they wanted to make trouble and put their families in jeopardy. But they, especially in quantities, like there was one person, maybe they figured they'd leave them alone, they won't bother anything, but you know keep a watchful eye on. [The chiefs would stand back to protect their people, rather than go up to these new people] Yea, I would think so, but then I was thinking too, what if somebody was to steal my child? I would be mad, I would want to go after them.*
- *Back then the Indian people would have had the ceremony when it was quiet. They had the powers to predict the arrival of the travelers and so they would have had the ceremony after or before the Spanish arrived.*
- *They [the Indian people] probably would have been, you know, scared if they haven't seen white people before, you know, like who are they, and if they didn't talk their language, or, and they had guns or that they shot first, you know, then they would be scared, of course. I think they did, because the white people probably pushed them out, you know, let's move on, you know, like that trail or whatever. They left, you know, you can't get away from them people, because they always follow you. Yea, because they [the trail] probably wore it down, wore it down to nothing, especially of the gun. They were*

probably pushed out by the white people and the trails were probably ruined as well. They probably would have continued to come back here, but only during certain times.

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the water at this site,” Indian people responded:

- *I don't know, I think it would probably temporarily, for, you know I don't know if it would really, it'd affect the water, yes, but then I think things would be ok after.*
- *Yea, they probably used it all and destroyed it, you know. If they had a dead animal or something like that, they probably just leave it in there. Maybe that's why they moved on, you know, find another place.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the plants at this site,” Indian people responded:

- *Oh yea, it would, especially trampled so much, but then I guess the seeds, I guess the trample would be carried on somewhere else too, huh? It just changes everything.*
- *They probably didn't even know what kind of, plants, was good then until the Indians had shown them which one was good to use when you are sick. If they were good people maybe, but if they were bad, I don't think they would say anything. They were farmers, the Indian were, they probably would take their food.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the animals at this site,” Indian people responded:

- *I don't think it would affect it because all the animals have senses, they know what's going on and they probably just ran for cover, the ones that do, the others I'm sure those people, you know, that were hurting probably shot them for food too, or for just sport. I don't know. I don't know. I think probably most of the time they would just probably run, run and hide.*
- *They probably scared them off, but yea they probably did, scared them off, but then they always come back, the animals always come back. They might have killed some, but then you know, but maybe we'll eat one and leave the rest, just like they did the buffalo. Slaughtered a bunch of them, and left them to die, and they didn't even eat none of them.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the traditional use features at this site,” Indian people responded:

- *Well if they camped there, you know what, I don't think so. I don't think so. They were not, they weren't, interested in coming up here and looking whats here. They were interested in getting where they were going...They just probably saw some rocks and didn't do anything. I'm saying, they were so tired too from riding all those days that they didn't want to climb up here.*

- *Hurt the site? Yea, I think they would have. Maybe they'd be curious and saying, "what's all this, maybe I should write on it." I think if they found it, if there was no trail or anything here, I don't think, that's why nobody found it until, what did it say nineteen forty something, and if they told a lot of people, I think they probably would have, you know, destroyed it like a lot of things that has been destroyed. I think they have gone someplace else. There's probably a lot, but then, you know, you're not, some, you're not looking at the right place or they're just not meant to be found.*

When asked, "what impacts, if any, did the presence of the non-Indian travelers have on the geology of this site," an Indian person responded:

- *They would have affected the river.*

When asked "were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail," Indian people responded:

- *[They would have been afraid] mmmm, because they'd be different people, Mexicans, they probably thought they were raiding their campsite. Two people, they wouldn't even know each other, what they were saying. Probably didn't have enough water to get back to Mexico, or wherever they're going. I think, uhh, animal needs to have something to eat. But, I don't think that, I think that the horses would just eat the dry grass or something like that, you know, that's nothing.*

When asked "if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people go somewhere else to replace activities formerly done here, where did they go and why," Indian people responded:

- *They tried to, you know, keep their land, but you know how Hiko [the white people] people are, they're pushy. They fought for their rights, but it just, you know, it just where they couldn't fight anymore, they cared for their family and so they just, so they had to go, took off. Wherever they feel safe from other people. All the leaders get together and they talk about things, where they should go, so, took their people with them because they're the wisest. They should know.*
- *Well, probably back then, they probably knew, since they did this all the time, they knew, so they probably had their ceremonies before. I'm sure they still had their ceremonies, but ahead of time.*
- *They probably made another trail some place else. That's what I would do. If it was me. Probably water, where it's green. Probably where they can take shelter. They expected that kind of rocks a lot along the way, but they do write it on different rocks, because I've seen them in different places. There's a lot of sagebrush, there's cedar trees. As they were traveling, looks they're somewhere traveling with their family, and they would, whoever was the storyteller would [make peckings].*

- *They probably did but it seems to me that even though they went a different way, the other people would be following them anyway too. So no matter which way you go, you always have somebody right behind you. Following you, you know, greener pastures or wherever. If it's a good place, they probably would come by. Probably in the certain time of the season, or that's probably why they had lookouts to warn the people, you know, let's go.*

When asked “if Indian people could no longer use trails in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people find other trails to replace them and why,” Indian people responded:

- *The Indian people would have used another trail to avoid the Old Spanish Trail because you never knew what the travelers would do. It was wrong for Old Spanish Trail travelers to take over the old Indian trails because it causes an unbalance. You're talking history. Look what has happened since!*
- *Just by being up, a lot of usage, and you know, um, hunting, using things along the way. Just, just, I know trails were used by everybody, you know, if they were heading somewhere, so, um, you know trails didn't belong to just one person, they used them, that was the easiest way to get there and it was known for so many years...It would erode the old trail, so probably when they made another one it would probably be along the same way, but a little bit different.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of the ethnographic comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic are intended to further inform the reader regarding these issues, but are not to be considered as a complete analysis of the topic.

This ethnographic comments section is focused on how the Rochester Panel is a special ceremonial place that is located near the convergence of waterways. The role of this site in ceremonial activity is affirmed by the presence of rock art, also known as *tumpituxwinap*.

While Puha and the paths it follows indicate a spiritual connection to the land, it is closely linked to being similar to water in the ways it disperses across a landscape. Water is a life giving force that both falls from the heavens and springs from the land. It is filled with power from its origin places, which it carries as it moves through the courses that carry it. In a way, water is a metaphor for Puha, and the element is often inseparable from the power. Therefore powerful places exist at the convergence of hydrological systems. At these places of convergence, Puha concentrates to create special ceremonial areas, like the Rochester Panel.

It is common for ceremonial centers to be located miles away from any permanent Indian settlement. Ceremonial areas are viewed as being extremely powerful places where only people

who properly prepare themselves can access them without being harmed or made ill. Therefore, religious specialists who would have performed ceremonies at the Rochester Panel would have traveled from these distant communities along a predetermined trail, also known as a Puha Path. The journey to the panel was an important component of the types of rituals that took place. The Puha Path involved religious specialists (pilgrims) stopping at shrines along the trail to spiritually and physically prepare themselves for activities at the Rochester Panel. The pilgrims left offerings in the form of finely crafted arrow points, tobacco, water, or special stones. As they did this, they gained power from the places they visited which they would have taken to the Rochester Panel to use in ceremonial activities. Additionally, during the journey, the pilgrims would have acquired Puha and collected medicine plants or other materials to be used during the ceremony.

Once arriving at the Rochester Panel, a ceremonial support camp may have been set up at the riparian area along the Muddy Creek, just outside of the canyon which leads to the Rochester Panel. People staying at the support camp would have been available to assist those involved in the ceremony by making sure no one was harmed and so on. While some stayed behind, others ventured to the rock art panels to perform ceremonies. The ceremony may have taken one day or multiple days; it depended what type of ceremony was conducted. After the ceremony had ended, the pilgrims would travel the same route they traveled to the Rochester Panel and they would have stopped at every shrine they visited to say prayers.

The Importance of *T̃mpituxwinap* as a Ceremonial Feature

Rock art is known to Southern Paiute people as *t̃mpituxwinap* or storied rocks. The Rochester Panel has numerous complex figures engraved onto three massive monoliths. The pilgrims came to this site to ceremonially interact with the panels. The *t̃mpituxwinap* are believed to be derived from supernatural authorship, whether they are made by the spirits or re-revealed. Southern Paiutes believe that the rocks were once alive and were once people. The people became rocks for human benefit. The writings on them related to this transformation and are part of the universe (Stoffle, Zedeño, and Halmo 2001). Numic speaking people hold strong beliefs that the rocks are alive, have power, spiritual value, and fit into the larger scheme of things on a local, regional, and global level. These understandings are part of Numic epistemology that the entire world is alive, its components are all interconnected and interdependent, and that power or knowledge is revealed to individuals through dreams and private visits to such locations (Stoffle, Zedeño, and Halmo 2001).

Rock art scholar David Whitley also states that Native people in California and the Great Basin view rock art as gateways to the spirit world. Religious specialists can enter the spirit world through certain types of storied rocks as part of ceremonial activity. One example that Whitley cites is a storied rock found in the Coso Range; it is supposed to represent a man killing a bighorn sheep. This pecking is supposed to represent a shaman entering the spirit world. According to Whitley, “When the Numic rain shaman entered the supernatural to make rain, he was said to have killed a bighorn sheep, that is, to have killed himself in a form of self-sacrifice because he was a bighorn sheep in the supernatural world,” (Whitley 2000: 110). A similar image was found at the Rochester Panel (see Figure 4.10 and 4.11). Indian people during interviews associated this panel with a man killing a sheep. The image at Rochester could share a

similar purpose as that in the Coso Range. Koosharem representatives also associated many of the humanoid images displayed at the Rochester Panel with medicine men, thus reiterating that this site was a ceremonial area.



Figure 4.10 Pecking of a Medicine Man Spearing a Big Horn Sheep



Figure 4.11 Pecking from the Coso Range of a Medicine Man Shooting Mountain Sheep (Whitley 2000)

Old Spanish Trail Travelers Impacts on Ceremony

Given that this area is in close proximity to the OST, there was a high probability that ceremonial activities would have been disturbed by the presence of non-Indian people. Habitat destruction and noise were likely to be the major contributors to the disruption.

The trail dissected the riparian area and travelers used it as a place where their horses could drink and eat before continuing with their journey. The impacts to the vegetation were great. The animals' hard hooves would have trampled the plants and the horses and mules would have consumed them. These impacts would have affected the ability of the Indian people to set up a ceremonial support camp.

The noise and the travelers' physical presence along the trail could have disrupted ceremonies up the canyon at the Rochester Panel. The pilgrimages would have depended on the solitude and the privacy this spot offered. Privacy is an important factor in ceremonial activities because many ceremonies had to be performed in a certain sequence or else either the ceremony would not work or it would have to start over.

A comparison can be made to a 1993 study conducted by sociologist, Thomas Greider. He examined the potential impacts of low altitude military flyovers on Native American ceremonial areas in the southeastern United States. His study found that the noise of the fighter jets would likely impact the effectiveness of Indian doctoring. Indian people who Greider interviewed said that any ceremony interrupted by noise increased the likelihood that songs would be disrupted and mistakes would be made. The mistakes had the potential to be detrimental to the patient and the medicine person because the medicine might not work. Greider added that Indian medicine and ceremony are introspective processes and unexpected noise would result in a loss of effectiveness (Greider 1993:80).

The impacts of low-flying aircraft and the impacts of the OST travelers appear to be on opposite ends of the spectrum, but the results of their impacts are similar. Unexpected noise from airplanes or people threatened to disrupt ceremonial activities. Disturbing these activities effect the shaman's ability to call the rain, restore balance, or cure the sick. The inability to perform these tasks resulted in the shaman being removed from his or her position. Traditionally in Southern Paiute culture, shamans who could not effectively cure patients were punished by death.

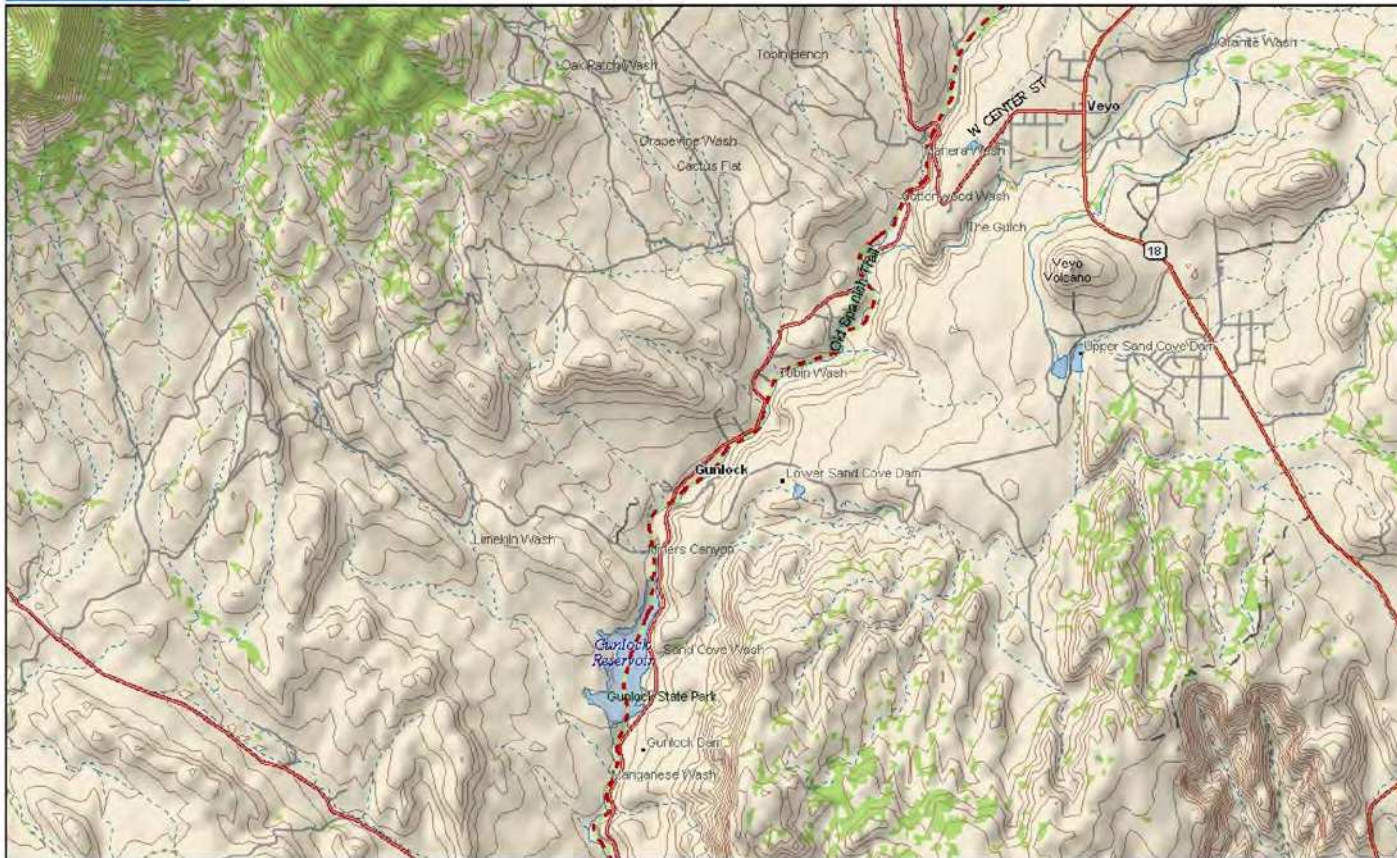
4.4 HOT SPRINGS TO SOLAR CALENDAR

The headwaters of the *Tunakwint* River, known today as the Santa Clara River, begins high on the western flanks of the Pine Valley Mountain range in what today is the state of Utah. This watershed is the focus of hundreds of special Paiute places where they conducted ceremonies and developed their second largest irrigated agricultural system. It is an area full of water and Puha, both deriving from the tall volcanic mountains and small lava flows that constitute the headwaters, the boundaries, and the topography of the Tonoquint river basin.



Figure 4.12 The Solar Calendar and Surrounding Area

The OST passes along traditional Indian trails from the headwaters of the Tunakwint River, which is at the southern end of the Escalante Desert near the present community of Enterprise. Following downstream, these trails lead to a hot springs near the village of Veyo and thus begins a story that Indian people have been talking about for decades. Veyo Hot Springs is produced by volcanic activity, therefore it has great healing powers. It was a key point on a pilgrimage trail to a solar calendar located about ten miles downstream and up on a small bench across the Tunakwint River. The pilgrimage to the Solar Calendar began and ended with



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Data Zoom 11-0

Map 4.3 Veyo Hot Springs and the Solar Calendar Area

purification rituals at Veyo Hot Springs. The pilgrimage trail to the Solar Calendar has not been specifically studied, but it is known to follow the river downstream to Miners Canyon, where it would correspond exactly with the traditional river trail and subsequent OST. Ceremonies would occur at this location. Leaving the river, the trail turned west to pass through Limekiln Wash to Rods Springs, where further ceremonial activities would occur. Rods Spring was the last water on the trail and so it would have been where water for offerings would be collected. From there the trail would climb onto and traverse the flat sedimentary bench for a few miles to the Solar Calendar. This pilgrimage trail, the prayers areas along it, and the two primary areas at either end constitute a major religious cultural landscape for Southern Paiute peoples and perhaps other Numic speaking peoples.

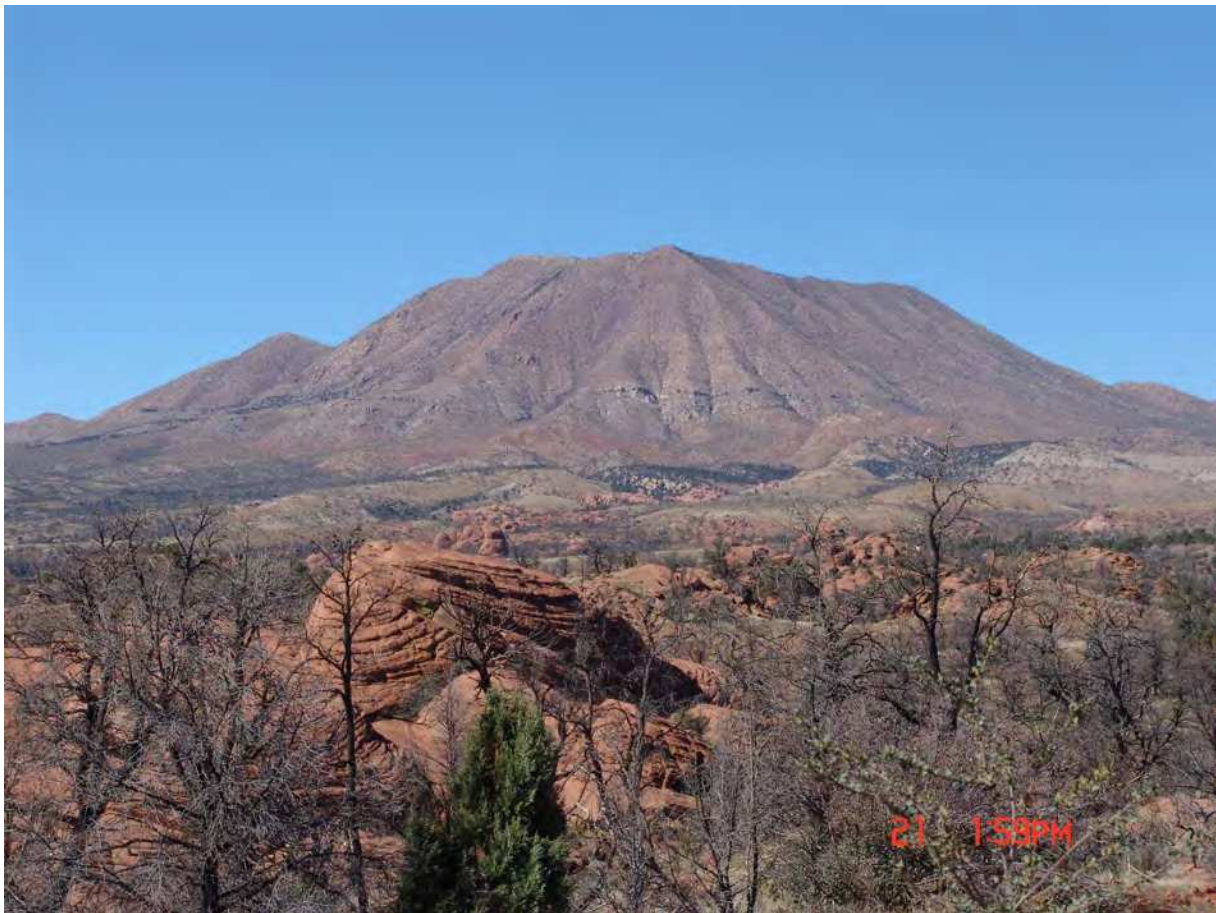


Figure 4.13 Volcanic Mountain near the Solar Calendar

Geology and Ecology

The Tunakwint River drains a large portion of the St. George basin, which covers 250 square miles and includes the Santa Clara and Virgin Rivers according to Robert Blackett (2004) of the Utah Geological Survey. Sedimentary strata folded along a northeast axis characterize the St. George basin. The basin is underlain by a thick sequence of Paleozoic and Mesozoic strata sandwiched between Precambrian metamorphic rocks. There are a series of Tertiary volcanic intrusions and exposed volcanic rocks in Pine Valley. Area cinder cones and basalt flows also come from the Cenozoic. In other words, the area has complex geology with topically and

visually dramatic volcanic and sedimentary features. The volcanic presence is so dominant that Blackett (2004) calls this the St. George geothermal basin.

Portions of the Tunakwint River basin, between Veyo and Gunlock, involve extensive and thick alluvial benches which are dissected by up to 200 feet deep washes that are fed by rains falling on the surrounding tall volcanic mountains. At places the alluvial benches are punctuated by resistant red sandstone outcrops. According to the Utah Geological Survey (2007):

Veyo Hot Spring is located southeast of the town of Veyo along the Santa Clara River. Here the river has incised 1 and 2 million-year-old basalt flows to form a steep-walled canyon. The Veyo Pool resort offers swimming and therapeutic baths with spring flows channeled to the swimming pool at a temperature of about 32°C (89°F).

The upper Tunakwint River basin is relatively well-watered with a high density of springs, a series of large washes that contain water during wet periods, and a permanent river (the Tunakwint/Santa Clara) which produces a long and continuous riverine oasis in the valley bottom. The surrounding mountains are covered with a pine forest which transitions to piñon and juniper forest on the lower slopes, and then thins to woody-sage zone dominated by scrub oak until the river valley bottom. The springs are true oases. For example, Rods Spring contained the 14 Indian use plants presented in Table 4.4.

Botanica Name	Common Name	Paiute Name
<i>Artemesia</i> spp.	sagebrush	sangwawe
<i>Eriogonum inflatum</i>	desert trumpet	papkurum
<i>Juniperus occidentalis</i>	juniper Cedar	wa'apu
<i>Pinus monophylla</i>	pinon pine	tuva
<i>Rhus trilobata</i>	squawbush squawberry	Su'uvimpu I'isi
<i>Salix</i> spp.	willow	kanavi
<i>Salvia</i> spp.	chia sage	sangwav
<i>Typha</i> spp.	cattail	tonovi
<i>Cowania mexicana</i>	cliffrose	unapu
<i>Descurainia pinnata</i>	Tansy mustard	aku
<i>Fraxinus anomala</i>	Singleleaf ash	tuva
<i>Prunus fasciculata</i>	chokecherry desert almond	tonapi
<i>Quercus</i> spp.	oak	tomumpi
<i>Rumex hymenosepalus</i>	dock wild rhubarb	

Table 4.4 Indian Plants at Rods Spring (Stoffle, Dobyns, Evans 1983:175)

Although Rods Spring has been altered to provide a drinking station for cattle, it contains an assortment of Native American plants, which in 1983 the project ethnobotanist described as one of the most undisturbed along the IPP right-of-way in Utah (Stoffle, Dobyns, and Evans 1983: 115).

Summary of Interviews

Indian people representing their tribes have been interviewed at the Solar Calendar and nearby sites twice in 33 years. The initial interviews at the Solar Calendar were conducted in 1983 by Richard Stoffle during site visits on the Intermountain-Adelanto Bipole I Transmission Line of the Intermountain Power Project (IPP) (Stoffle, Dobyns, and Evans 1983). The IPP study involved potential impacts of 500KV electrical powerlines and their associated access roads along more than 500 miles of study corridor ranging from Delta, Utah to a power station in the central Mohave Desert in California. Studies were divided by states where they occurred. The ethnographic study design involved participating tribal governments selecting representatives to visit portions of potentially impacted areas. A mail survey was sent to members of various Paiute tribes asking for written input on potential impacts. This analysis is focused on responses made during the site visits, but is supplemented by insights sent in during the mail survey.

During the 1983 study three people were involved in the site visit to that portion of the IPP study corridor that passed the Solar Calendar, Rods Spring and places to the north. Interviews were conducted with Dan Bulletts and Mary Snow, culturally experienced elders who have passed away since the study. A younger person, Ferman Grayman was also interviewed in 1983 and he returned during the OST project in the summer of 2006 to share his observations based on his 33 year long perspective.

Southern Paiute Tribe	Male	Female	Total
Shivwits	3	2	5
Intermountain Power Project	2	1	3
Total	5	3	8

Table 4.5 Interviews at the Solar Calendar

The 2006 OST interviews involved 5 Indian people, including the chairman, of the Shivwits Indian Tribe, which is a part of the Paiute Indian Tribe of Utah. When the interviews from 1983 and 2006 are added, 8 interviews occurred at this site, including a person during both field sessions.

Native American Comments

The comments regarding this site are shorter and less specific than for other sites inasmuch as there has been a consistent effort on the part of the Southern Paiute people to keep the location and existence of this site secret. That effort has failed and so more details are offered here in the hopes to stimulate Federal and State of Utah interest in implementing other more proactive preservation strategies, such as formal nomination to the National Register of Historic Places as a Traditional Cultural Property. The Indian people want more protection for the site.

A brief site description is provided here in order to properly contextualize its cultural importance. The pilgrimage trail and Veyo Hot Springs are not described further. The Solar Calendar is located in a very small cave high up on the face of a tall red vertical sandstone outcrop. The place is dramatic, with the brick red sandstone standing up from a generally flat and grey in color sedimentary bench. The bench is covered with trees and a dozen or more Indian

medicine plants. The pink sandy ground, probably produced from eroding sandstone, is covered and, when dug into with the fingers, filled with small chips of brightly colored stone. The climb onto the vertical sandstone is extremely steep and has a sharp drop off to the ground below. Once on the elevated shelf the cave can be climbed into. Immediately the cave is contrasted by a large flat stone, which seems to almost fill the cave. The cave itself and the clean pink sand floor contrast sharply with the stone, which has been totally smoothed to prepare a massive and apparently integrated pecking. At the entrance portion of the stone, grooves have been cut. Just above the grooves the top of the cave has a v-shaped break. Light falls on the cuts at various times of the day and year giving the cave its calendar function.



Figure 4.14 Offerings Found near the Entrance of the Solar Calendar Cave



Figure 4.15 Rock Peckings



Figure 4.16 Time Cuts at the Edge of the Rock Pecking Panel

Since 1983 the cave has become a destination for tourists, as indicated by a new extensive well maintained road to the site, a turn-around at the end of the road, a massive fire pit in the middle of the turn-around, and trash all over the area. In addition, since 1983, fires have been made outside the cave on the shelf below and inside the cave, the latter causing portions of the back wall to spall off. The ceiling of the cave now has extensive graffiti. The calendar stone itself seems to be untouched, except for a piece at the cave entrance which was broken off just before the Indian study team arrived in 1983.



Figure 4.17 Ferman Grayman and Dan Bulletts at the Solar Calendar in 1983

Traditional Uses

During the 1983 IPP site visits along this portion of the potential power line route, tribal representatives took ethnographers to the Solar Calendar. They were reluctant to mention Solar Calendar, but when they observed the blue top survey stakes that marked the proposed IPP route they determined, by talking among themselves, that they had to speak up. They wanted to protect the cave while keeping its purpose and location secret. The IPP report (Stoffle, Dobyms, and Evans 1983: 115) thus reflects these dual concerns and only included the following text:

During the ethnobotany visit, study team members were taken by the Shivwits OTCR to a cave that has special religious importance. The location of this cave has been withheld from this report in order to provide maximum protection for the site. Unfortunately, the site has recently been discovered by someone, as evidenced by recent disturbances. Whoever was at the cave just before the arrival of the IPP ethnobotany study team left beer cans, attempted to dig for artifacts and sift the sandy soil, and entered the sacred cave breaking off a corner of the Petroglyph rock located in the cave. This vandalism of the sacred Paiute cave had occurred recently as evidenced by the tracks and to the fact that no such damage was present when the Shivwits OTCR had recently visited the cave.

The IPP report did not mention the Solar Calendar, choosing instead to refer to the site as a Sacred Cave, in which it is in fact located. Subsequent to approval and issuance of the IPP report members of the relevant management agencies visited the site and agreed to keep the site out of the state records of archaeology sites and not to speak formally about the site. This set into

motion the “protect by keeping secret” strategy which seemed to be the best one given the isolation of this area at the time. The 2006 visit to the site documented that this management strategy has totally failed and the Indian people would like to consider alternatives.



Figure 4.18 Southern Paiute Representatives and UofA Ethnographer Climbing to the Solar Calendar

During the 2006 site visits, the function of the site as an old ceremonial area was reaffirmed. Additional interpretation involved the path to the site, which was from the Veyo Hot Spring along a pilgrimage trail discussed earlier in this section.

Tribal representatives in 2006 said that the cave was a place for men to go by themselves as part of a pilgrimage. The *journeyman* (or pilgrim) carved pictures from their journey into the rock. The stories are all in a singular voice (there were no men or people carvings indicating other people's presence), and the carvings weren't intended for other people to understand. Only the *journeyman* would understand his own carvings because they represent his particular

journey. The man would camp up in the cave and would bring an offering to the calendar rock. Since the calendar rock is alive, they brought it offerings that would sustain it. During the 2006 visit tribal representatives left tobacco in front of the cave, and they left an offering of water to feed its thirst. The need to bring offerings also made the *journeyman* show his worthiness. It is difficult enough to make a pilgrimage there and then have to climb up into the cave, but having to get an offering up there as well (such as water and offerings of plants) makes it more complicated.



Figure 4.19 Southern Paiute Elder Outside the Entrance to the Cave

The view from the cave is important because it looks out on the path leading up to the cave and on the sacred plants surrounding the path. It is still not good to talk much about the place because it is a serious place.

Impacts

Concern was expressed by the Indian representatives that the travelers and their animals would have visited and disturbed the Veyo Hot Springs, and disrupted that portion of the Indian pilgrimage trail from Veyo to the Miner's Canyon turn off to Rods Spring. There would have been prayers said when pilgrims left (and subsequently returned to) the Tunakwint River. Such prayers probably were associated with ceremonial objects left in and around rock cairns at the location. These could have been disturbed by travelers and have since been disrupted by subsequent road development. The Indian people did not believe that the travelers along the OST would have followed the pilgrimage trail to Rods Springs or further on to the Calendar.

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of the ethnographic comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provide additional insights based on extant published literature.

This ethnographic comments section is focused on how Southern Paiute people kept track of time through the use of a traditional solar calander. This site was the destination place for time keeping specialists who followed a pilgrimage trail from Veyo Hot Springs through the river valley and west to the calander. The trail through the valley directly overlaps with the OST thus opening the area to years of impact.

All humans keep track of time. Time for humans is structured by the movements of the planets, stars, moon, and the sun. Time is divided into the many kinds of units generally understood as a day, month, season, and year. But humans also keep track of linear time composed of tens, hundreds, and even thousands of years. Mythic time, which exists today in another dimension and existed before current physical earth time, is governed by different forces than physical time. Places exist where a properly prepared human, called above a *traveler*, can pass back and forth through a temporal portal. Rock peckings and paintings are often put by humans and spirits on these portals to indicate the nature of the place and the substance of the journey.

Human activities are influenced by time, which often dictates that specific human activities (rituals or ceremonies) occur at exact moments. Moment-specific human activities are often the most important things that people can do; generally serving to keep their lives, their communities, and the world in balance. In order to know when these moments are about to and do occur, humans have specialists and specialized tools for telling exact time. The tools for time keeping are often physical, such as topographically distinct landscape features which permit a shadow or light shaft to move across a specific place at the moment which is to be remembered, prepared for, and ceremonialized.

The meaning and cultural centrality of this Southern Paiute Solar Calendar (and associated pilgrimage trail and hot spring) can be better understood by comparing it with a short list of similar places from Europe and elsewhere in the New World (Carlson and Judge 1983).

Stone Henge and Avebury megalithic temples, County of Wiltshire, southern England.

Newgrange earthworks, passage grave, and midwinter rays of sun, beside the River Boyne, Ireland.

Carnac, greatest of all European megalithic centers, 6,700 BP, Hamlet of Le Menec near Carnac, France.

Externsteine rock caves and temples atop rocks, Detmold in Lower Saxony, Germany

Machu Picchu and the Intihuatana – sacred Inca stone dedicated to the sun God Inti and used as a scientific clock, near Urubamba River, Peru.

Pyramids of the Sun and Moon and associated plazas in Teotihuacan, central Mexico.

Palenque, a Mayan ceremonial center operated by astronomer-priests, State of Chiapas, Mexico.

Bighorn Medicine Wheel on Medicine Mountain, between Sheridan and Lovell, Wyoming.

Sun Dagger on Fajada Butte, Chaco Canyon, Chaco National Historic Park, New Mexico.

Chimney Rock on a mountain near the Pierda River, Colorado

These solar calendar places all were designed to capture solar moments when natural light shines on natural places or lines up engineered places. Even when engineered features predominate the ceremonial place, natural features like Intihuatana, the carved stone from living rock at Machu Picchu are used as a part of the time keeping. The special topography of the place is evident at Fajada Butte, Medicine Mountain, and the spectacular tall rock on which the solar calendar was placed in Saxony, Germany. Such places occupied culturally central positions in the lives of Native Americans and Native Europeans for thousands of years, and each place is celebrated and protected by national heritage law in these societies.

Once it is recognized that there is a persistent visual connection between a topographically distinct landscape feature and a proximal time marker, the relationship is tested through frequent use and, if accuracy persists, chosen as a place of preference for human activities associated with temporal moments. Said simply, clocks have to work and when they do they are kept and protected. When people repeatedly conduct important activities at places, these are commemorated and can become culturally central. Such places can become famous for their temporal services, and thus humans return to such places over generations – some say forever. People do not walk away from or leave unattended such places because world, community, and personal balance is at stake.

The Veyo Hot Spring area and pilgrimage path from the Veyo Hot Springs to the Solar Calendar were what was impacted by the OST travelers and their caravans. The impacts initially were to the hot springs where animals and people stopped, used the site especially the water and grasses near by, and moved on. The former foot trail from the hot springs down river to Miners Canyon and any shrines along it were probably damaged by the herds of animals. After up to 40 such visits from 1829 to 1849 the impacts changed from animal caravans, to wagon caravans. The numbers of annual visits to this stretch increased exponentially from the two time a year caravans during the OST period, to the hundreds, even thousands of travelers passing through this area during the 1849 U.S. gold rush expansion to California. The impacts of these subsequent travelers on the Indian people were devastating with estimates of up to 90% of all

near-trail Indian people dying by 1850 (Stoffle and Evans 1976; Stoffle, Jones, and Dobyns 1995).

It is a bit difficult to hold the Hispanic travelers responsible for producing the route traveled by the 49ers, but an argument can be made that the 49ers in fact took information derived from previous travelers of the OST and followed wherever wagons could traverse the route to California. In the instance of the upper Tunakwint River, the traditional river trail became the OST, which became the 49er trail. Impact after impact occurred to the physical environment, the fauna and flora, the cultural resources, and to the Indian farming communities along this trail. The cumulative effects of the upper Tunakwint River trail becoming the OST were extensive and persistent. What else could happen?

In 1983 the area immediately surrounding the Veyo Hot Springs to Solar Calendar Cave was extremely rural. Most roads, excluding the paved road along the Tunakwint River, were poorly maintained dirt paths primarily traveled by local ranchers servicing their herds of cattle. The IPP proposal was a threat to this isolation. The IPP report brought forward many Indian concerns regarding this access issue (Stoffle, Dobyns, and Evans 1983: 118)

Currently, access to the cave is limited by the extremely poor 4-wheel drive dirt roads in the area. If the IPP proposal is approved for this area it will involve upgrading the local roads. The Shivwits people and others like Clifford Jake [a spiritual leader from Indian Peaks band of the Paiute Indian Tribe of Utah] who know about this site fear that any improvement in the roads will increase the vandalization of the site. At the present time the cave site is just a few miles north of the Shivwits Indian Reservation. The site's only protection is the poor access to the area.

Earlier in this site discussion, it was pointed out that in 1983 the involved tribal governments believed that the site could best be protected by not mentioning it and asking that the relevant Federal land management agencies to keep the site secret. This was the protection agreement, and then the IPP line to California was constructed.

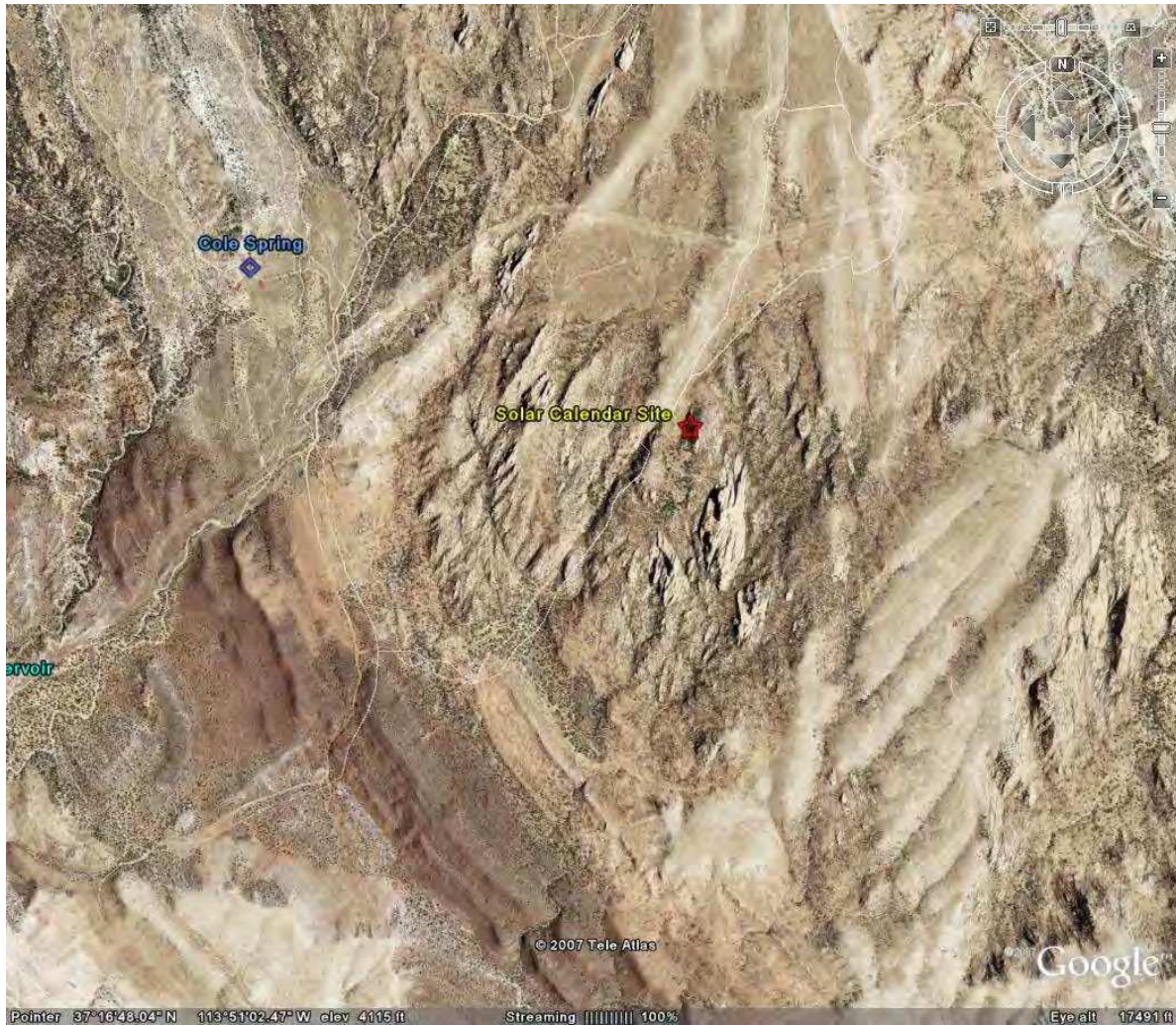


Figure 4.20 Utility Corridors Surrounding the Solar Calendar

Over the past 33 years, the initial IPP single line corridor has become a massive utility corridor involving three major power lines and a series of underground gas lines. Each subsequent project was squeezed into the initial IPP corridor, which in fact was expanded by the practice of project construction equipment going where they felt they need to be for their specific construction tasks. The current footprint of the utility corridor is not only much wider than the initial IPP corridor, but virtually all of the corridor has been disturbed and surrounding roads have been cut and upgraded to form a braded latticework of roads (see Figure 4.20).



Figure 4.21 Fire Damage inside the Solar Calendar Cave

Not only has access into the area been greatly increased by the utility corridor, but the natural and cultural resource use patterns in the area have shifted from ranching to extensive unregulated tent and motorized camper camping and off road vehicle recreation.

During the 2006 site visit, changes to the Sacred Cave were noted. Now there is a high quality dirt road to the nearest travel point by car or truck. At this point the road makes a wide turn around circle indicating it has arrived at a destination. The cave has evidence of frequent use. Trash occurs all over, charcoal from personal fires exist in the turn-around, in front of the cave, and even inside of the cave. The latter being a confined fire has spalled off the sides of the cave. Offerings placed by generations of pilgrims near the front of the cave have been shifted by pot hunters and all artifacts have been removed except a few small lithic which are dumped after sifting in piles. Graffiti now exists in the cave, but the large Solar Calendar seems to be in the same condition it was in 1983.



Figure 4.22 Damage to the Rock Peckings

The next step in the OST development is to consider nominating certain places to the National Register of Historic Places, which are linked to activities along the OST. The Shivwits tribal representatives would like the Solar Calendar to be given special federal status and for the appropriate land management agency to work with the tribe to reduce access, post exclusionary signs, restore the site to a traditional condition, and develop a co-management relationship with the tribe which would at a minimal involve regular monitoring. Secrecy regarding the location and key components of the Sacred Cave and Solar Calendar is now lost. Many people know about and use this site during recreational tourism. So, the Shivwits tribe (and by implication the Paiute Tribe of Utah) recommend that a minimum but culturally accurate interpretation of the place be developed and made accessible to area visitors so they understand the reason for reduced access and restoration efforts. Educating visitors in this largely un-patrolled area may be the best path to stabilization and preservation. The Indian people involved in this study would also like the area to be closed formally at least once a year so that commemoration ceremonies can occur.

4.5 CAMP SPRINGS

Camp Springs is located approximately 0.5 miles southwest of the *Tunakwint* (the Santa Clara River) on the Shivwits Paiute Indian Reservation. The spring was an important agricultural area for the Shivwits Paiutes. The lush vegetation and proximity to the Tunakwint made it a popular stopping place for OST travelers. People coming from New Mexico would have stopped at Camp Spring before continuing towards West Mountain and down Beaver Dam Wash into Nevada. Travelers from California and their large herds would have stopped at Camp Springs before journeying northward into Utah.



Figure 4.23 Camp Springs

Geology and Ecology

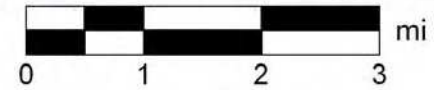
Camp Springs is located in the Tonoquints Volcanic Province. It is one of the largest igneous fields in the United States, and it occupies much of the southeastern Great Basin. It is similar in size to other volcanic fields in the western United States, like the San Francisco field in Arizona and the San Juan field in Colorado. The Tonoquints Volcanic Province extends from Richfield, Utah into southern Nevada and it covers approximately 7,500 square miles in Utah alone. The volcanic activity in this region is not confined to any one dominant geographic feature. The features are composed of rock that formed during a short geologic time span with similar modes of formation and chemical composition (Stokes 1987:178).



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Map 4.4 Camp Springs and the Surrounding Region

The spring is located in the Great Basin Conifer Woodland biotic community. This community is a transition zone between the montane forests and the desertscrub communities (Brown 1994). It consists of some of the most extensive varieties of vegetation in the Southwest. This community is cold-adapted evergreen woodland and is unequally dominated by piñon pines (*Pinus edulis*) and Utah Juniper (*Juniperus osteosperma*). This life zone can span between 1,500 and 2,300 meters in any given location and is commonly found on mesas, plateaus, piedmonts, slopes, and ridges.

Summary of Interviews

Representatives from the Shivwits Band of the Paiute Indian Tribe of Utah were interviewed by UofA ethnographers at this site. During the interviews, tribal representatives discussed the use and meaning of Camp Springs and how it was impacted by movement along the OST. Included in the interview table are interviews that were conducted during an oral history project regarding the traditional use of Camp Springs. Table 4.5 details the breakdown of interviews by tribe and gender.

Southern Paiute Tribe	Male	Female	Total
Shivwits	3	2	5
Shivwits Oral History Interviews	1	2	3
Total	4	4	8

Table 4.6 Interviews at Camp Springs

Native American Comments

Traditional Uses of Camp Spring

When asked, “Would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- *They’d be here, right along the creek, and they get the water from the spring apparently. I guess it had a lot of water in it to feed all those horses right along with the river down there. You know, the people. Had a good windbreak. They lived here. They would have just been, right along the village down to there wouldn’t they. Right along where they planted their food. For their corn in this. Yea, that’s what they said on the, historians said corn. This had pine nut trees too, around here. They had pine nuts. I remember picking pine nuts off the trees. Yeah, it [the fire] burned a lot of them. It used to be right over in two villages. They had those Indian houses over there, a tree that told where they used to live. Right up the hill over there. It had that, time they had that fire, went ahead and showed where all the houses used to be. Where they had places where they lived. I guess this place had quite a bit of water back in them days. Everything’s changed, the whole scenery probably a lot better. This wash probably wasn’t this deep down through here either. With all the water, going down to the erosion, could have changed the whole scenery outlook of this place. I know all this time after, we gone through here long time*

ago, I was little. We used to come playing up this way. We used to come deer hunting up through this way too when I was little. We used to have a deer trail over the hill from here, over and down. Place to drink water when we were deer hunting. Down to here, this one, and up to there, and there's another spring way up there. We used to get water inside the hill up there, by the old spring with a stick. Stick it in there, and water would drip out, yea, and have your little canteen and fill it up there. Up by the old mine.



Figure 4.24 UofA Ethnographers and a Southern Paiute Representative

- *The Indian people lived here, they grew corn here, had homes just on the nearby hills. They had cottonwoods and the wash was not this deep then. There was a deer trail over the mountain to the south too. Good water came from the springs here and up slope near the old mine. There are tea plants here. Indian people used the cottonwood; they used the bark.*
- *That time you were asking me what that Tunakwint means. Tunakwint, that means to going up, and I was thinking that meant the time they had those Indians, used to live down there, and they had that, the water. It had to do with something water. The water goes to a way straight and forward, and that's where it goes and goes in a circle and comes back, and I was thinking about like, the water comes up from somewhere, and then it turns around and comes back down, something like that. That's the closest thing I could come to when I was thinking. Toho-na-quint...going one way, the water going one way, and going up...I dunno. Maybe they are talking about the Santa Clara River or the Virgin River, going up, and coming down.*

- *Indian people would have used the water which is what they would have used for their crops, drinking, and other plants. The water would have been used for living purposes, hunting, and gathering resources. Passing through, they would drink water when they were out hunting and gathering plants for food.*
- *Oh yeah. That I know of. It's a place where they can get water, stop off and do whatever they need too. Probably camped. They'd come up here, and there's a lot of cultural plants here that they could use, like willows, they could come get the willows to make cradleboards that they use. They got the cedar, they got all those. They come up here to hunt deer, rabbits, sparrows, and a lot of other things too. There's a lot of other things that they could live on, besides them. Mostly down the river is where they farmed at. My people used to mainly farm down below.*
- *Indian people would have been attracted to the water, the plants, the animals, and its location. They would have used the area for hunting, camping, gathering resources and for ceremony.*

During oral history interviews with Shivwits Paiutes, elders were interviewed about the traditional use of the Tunakwint and surrounding springs. The following are comments made by Shivwits elders about the use of Camp Springs; although the uses described below are considerably later than our study period, they demonstrate continuity of use since the OST period.

- *SP1: That's where Chrissy was saying her father where he used to garden down in there. UofA Ethnographer: Was the spring big enough so that the flow went to it, or did he have to- carry it? SP1: It had a big enough flow.*
- *UofA Ethnographer: Where did they begin their fields down there? SP1: That wasn't so very big, that was just a little opening there- about like this one. UofA Ethnographer: About like this? SP1: Yah, where they could carry the water to it, see, and things like that.*
- *UofA Ethnographer: How would the water get from the spring down to the fields? Was there a little ditch? Or did you carry it?*

SP1: *Mhmm! Mhmm! He had a ditch.*

UofA Ethnographer: He cut a ditch?

SP1: *Out from the spring, maybe you could see it.*

SP2: *But unless it washed away.*

SP3: *Maybe that's what happened.*

UofA Ethnographer: Yah, could be

SP3: *See, there's a berry tree, like that berries- squawbush berries.*

SP2: *Well, he was 43 in the 40s, and he farmed down there on the other side.*

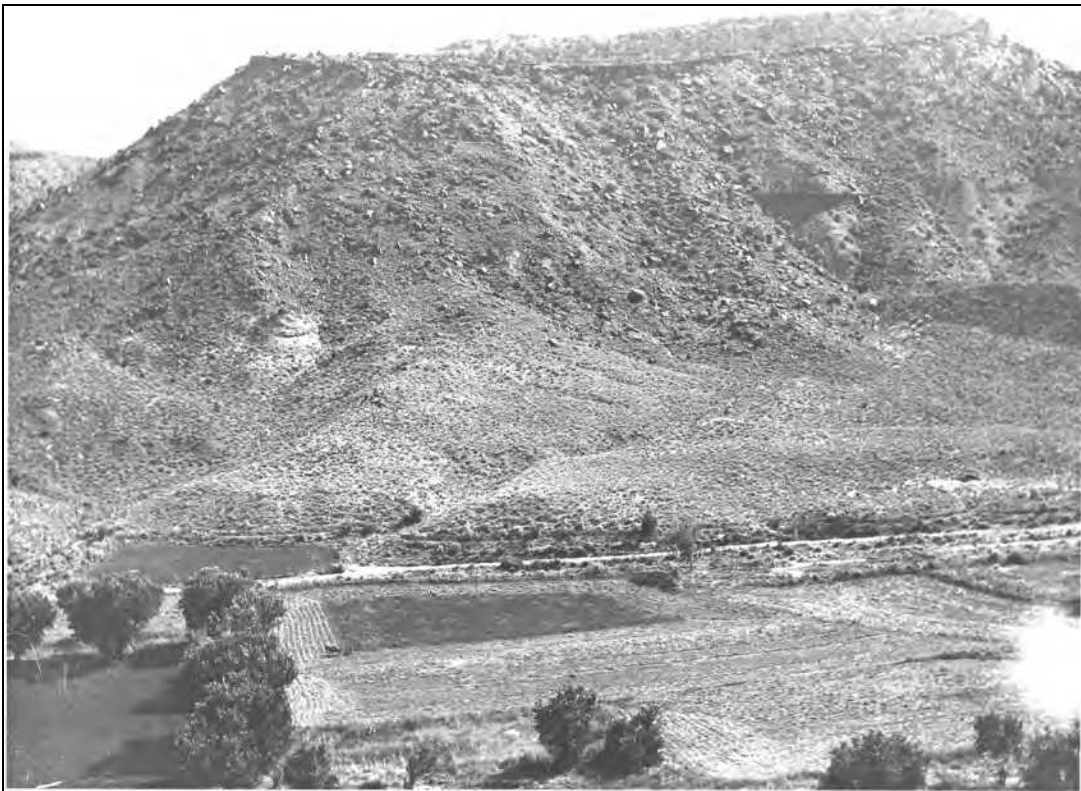


Figure 4.25 Historic Photographs of the Tunakwint Region in 1916

Camp Springs Place Features

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	5	0	<ul style="list-style-type: none"> • <i>The spring was drinking water for humans, animals, and plants.</i> • <i>When out hunting, they would have stopped at the spring for water.</i>
Was this site a source for plants?	5	0	<ul style="list-style-type: none"> • <i>The area has many types of plants for eating, healing, etc.</i> • <i>There are a lot of plants here like willow to make cradle boards and cedar to use and more.</i> • <i>There are plants here that were used for basket making and medicine.</i>
Was this site a source for animals?	5	0	<ul style="list-style-type: none"> • <i>Deer and rabbits, and then they have those flying squirrels, they look pretty good to eat, and there was, if they found porcupine, they would kill it and cut their sack off and cook it, and tastes pretty good. We'd make earrings out of them and necklaces, and you can make those little tiny dreamcatchers out of them as well. You can use them for anything. And they used little rabbit backbones, you know, the little ones, you could use them for your beads and make a little necklace.</i> • <i>The Indian people would have hunted deer, rabbits, and squirrels. There are lots of other things they could live on besides them too.</i> • <i>The deer used the spring as well as other animals.</i>
Was there evidence of previous Indian use at this site?	4	0	<ul style="list-style-type: none"> • <i>There are some nearby home structures and they would do sweat lodges nearby.</i> • <i>The Old Spanish Trail was a Paiute Trail. There are rock markings for use on the trail.</i> • <i>They gathered stones and built a little thing to make fire, and then they had, they used to put this kind of rocks, its kind of rough like rocks, and when you kill a deer, after you scrape it, when you're going to tan it, you use that and it makes it soft. They used all kinds of rocks, and then they used the deer bones to scrape the hide.</i> • <i>There may have been some home structures but I did not see anything however, the way it is situated, people probably build right into the crevices and bushes.</i>
Did Indian people use the geological features at this site?	4	0	<ul style="list-style-type: none"> • <i>The spring is close by.</i> • <i>They would have also used the hills around the spring</i>

Table 4.7 Camp Springs Place Features

Regarding plant resources at this site, Indian people also said:

- *See those green ones right there. Well, they call them Brigham tea, but we always call them Indian tea. It's good to have that. It's like, stimulates your body. If there pains, then there's other stuff that they use. There's a lot of stuff here for medication to use. Even the cedar trees like that. You'd weld that if you've got a real bad cold, and then you'd take that and first you got to pray for it and talk to it, and you gotta pick it on the sun side, where it's rays will warm it up, where the sun comes up. They had to stand on the other side, go around that way, you know where the sun comes up and they get it from there. You don't just pick them. And then sometimes I put it in the house, let it burn for awhile, and it smokes and it smells really good. Like, what do you call that thing that they buy nowadays, incense. And then we have that sagebrush and stuff. We use that for medication. I think that's what peoples used all this stuff for, maybe that's why they stopped by and they camped.*
- *Yeah, those Sago Lilies, just dig them out and eat the bulbs off there. Little round ones. Young when we were digging those up and eating them. Watery, lots of moisture, some of them are sweet. They had that squaw bush, they call it squaw bush, we call it i'si, had those berries. They had that for your spiritual use, they use those Juniper, the leaves on it. The old ones used to say they ward off evil spirits, like you do when you go to bed. Still do it today down the house. They got to have cottonwoods. Cottonwoods grow anywhere where there's water. That one right there is your tea. Used to use that bark [of the cottonwood] for something, can't remember what it was.*



Figure 4.26 UofA Ethnographer and a Southern Paiute Representative

Regarding animal resources at this site, Indian people said:

- *They used to have beaver down and had that quick water running steady long time ago. They used to have beaver pond down through there. And they'd have some boundry and they'd come like dam it, dam this buildup. Only seen them once, and that was only, never did see them anymore. That's when I was little. And they had raccoons, raccoons right here. Ring-tailed cats. They had squirrels, rabbits, and porcupine. And Bobcat, what was it, two or three weeks ago I seen one down at five mile.*
- *Indian people would have used deer and birds.*

Regarding geologic features at this site, an Indian person also said:

- *It's a pretty good area. Fine when I was growing up. We'd hike all over the place. Back when I was growing up my grandmother said they had a little skirmish with the whites, right down here in that valley up here. Right in here somewhere. They had the Indians and the white guys shooting at each other. Guns and bows and arrows. They had one killed. That was way back in the days I guess. I dunno, like somewhere around that, I can't remember the day. Way back. My grandmother was telling me that. She said it was right behind this dam here somewhere. And she said they wrote it down in the rock, and that's still down there. Just the other side of the hill. They had an old sweat lodge over there, an OLD one over there, made out of, I don't know what it was made out of. They had the whole structure over there, and it was old, because I mean we are seeing that one when we was over there deer hunting and I was looking in there. It had that little old wood thing, and it was still standing there, you could see parts of it, even where they coming out of the ground, where they broke. You know that volcano rock, that kind, had that kind of rock over there, and some other kinds.*

When asked, "are there places traditionally used by Indian people near by that are connected to this place," Indian people responded:

- *You have to go down through there [where the down stream villages are], you can't keep them all in one place. They probably went this way and going looking around seeing what they can see.*
- *Places were connected by the river, hot springs and hunting grounds were connected.*
- *But they are connected, no matter which way you look at it. To me, everyplace you go, they're all connected, the springs, the water...I know that its all connected.*
- *Mostly down the river is where they farmed at. My people used to mainly farm down below.*
- *The hot springs near by and the Santa Clara River.*

When asked, “are there traditional Indian trails connected to this place,” Indian people responded:

- *There were well used trails because Indians just travel one way and follow the water. Yes, unless you went around the hill. This is it. If I was going this way, I'd go up that little canyon too, the same way and down. Yeah either that [the Indians told them how to go] or somebody went through there. So you'd have to come up this way in order to get over that way, or go around the hill. Yeah, cause if you go around this way there is another spring over there, there is one spring and then go over a little further there is another spring. So you'd have to go that way in order to get down and around Beaver Dam Mountain, and you go this way, this spring here, then there's another spring up over the hill and then down, because you couldn't go down to the gorge because the gorge is too narrow, and it's too rugged, and there's narrow spots down there, before the highway went down through there. It was narrow and long. They'd be just like the Indian travel, they'd travel the same way. They knew where all the springs were. I'd travel which way the spring was too.*



Figure 4.27 UofA Ethnographers and Southern Paiute Representatives

- *The Salt Song trail is close by here. There are trails also that go to places where it tells you when summer or winter begin. There are trails to the crop areas by the river and also trails for hunting. Also, there are trails that go from east, south, west, and north to visit other bands of Paiutes.*

- *All the trails connect, you know, you can make a trail up like that through there, and no matter which way you make a trail you find the easy way to make a trail, but you still end up at the Old Spanish Trail, you still end up there. There's somebody always there to tell you which way to go, in your heart, that guy up there, big guy, where to go, but on your own you'd be like lost. Where am I? Where am I going? If it's like this, and that's how I always say it, our creator, he's the one that teaches us and gives us knowledge, and says ok you take that trail, and for some reason you end up at the same place, and you're like ok. You didn't get lost. What if you're a lot of people getting lost, it's kinda hard to understand.*
- *In different areas, yeah, probably.*
- *Yes there are trails connected to this site, such as song trails, ceremonial trails, and trails to resource areas.*

Impacts to Camp Springs

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area, and what kinds of impacts did they have,” Indian people responded:

- *They probably just hid, watching. Probably curiosity, that's what I'm thinking. Wanted to go look and see what they were doing, who they were. “Who the heck are those guys, where they going, what they doing?” See what they're packing. They probably wanted to trade something too, but the Indians wouldn't take it. Probably food, pine nuts, something, and whatever they had stored away. They would just trade anything with them, the beads, anything shiny mostly. I don't know a lot about back in them days, but my brother and them when I was little they said they had some gold mine up here, and they used to have pieces of gold, and I was wondering if they traded those when they were back in them days. I don't think they would know what it was, did they? Probably just think it's another shiny rock.*
- *They probably used the trail. Yeah, every time they go over. Three thousand head would make a good trail. Yeah, you ever follow a deer trail? You know where deer trails, they all follow each other, and its nice and soft. You don't have no rocks or bristles or anything, where they step is soft. You can see it here, if you know what you are looking for. That's the way it would be with the horses. That would make the hard ground soft.*
- *They probably killed Indians to gain access to the spring.*
- *Indian people would have kept extra materials and food to trade with the Spanish. The Indian people were still concerned about the Spanish taking women and children so trade would have been done by a group of strong men. The women and children would have been kept away. The chief would be the main one there to trade. He would not stay back.*

- *Indian people were taken from their homes and sold as slaves. Their crops were trampled, also the animals were used for food were driven away. Water became undrinkable because of the sickness.*
- *Maybe because of the horses, they stomped everything, you know, and they graze on everything and they had nothing there, you know, because they usually ruined the water and all that stuff. So it probably was kinda hard to get adapted to after they been through. And the peoples too, because they didn't care who was there and what was there. Why is it that peoples don't respect this place? Maybe in them days, you know, they didn't know what they had and they just threw everything here and there and maybe the Indians came along and they'd pick up any old thing and maybe clean it and maybe they got sick with whatever they had, you know, that's what makes it worse.*
- *Well yeah, I think they probably did. I mean, you know, when they came through at a certain time, you never can tell, maybe they were here too, camping out or something. They'd interfere that way. I dunno, I'm thinking they probably took some of our people with them at times.*

When asked, "what impacts, if any, did the presence of the non-Indian travelers have on the water at this site," Indian people responded:

- *They all kept them separate. That's what I was thinking. If they went ahead, if they all came through here, they'd probably head down to the creek down there, Santa Clara River beat them all out, and then they have this spring up here for regular settlers, so it was undisturbed, don't you think. Spanish, whoever was going through here, they'd drink out of this one and feed their family and they'd use that creek water down there for the horses. The travelers would have had an impact. The Spanish would camp up here and feed themselves and put the horses on the river down below where there was more water and space.*
- *The water was impacted by the travelers.*
- *I think it would ruin this one, because this is not a real big spring, kinda small, but it never stopped, it's always there. We have a, I bet you that water wouldn't even have been enough for me to come through there, but then they had that river right down below, might have probably trickled down there. That river used to run real good, but recently it hasn't gone at all.*

When asked, "what impacts, if any, did the presence of the non-Indian travelers have on the plants at this site," Indian people responded:

- *Flatten them out [The plants]. They'd probably come back along with some other strange ones, what the horse had been eating on the way up. The seeds get scattered by animals don't they, passed from here to here.*

- *Maybe because of the horses, they stomped everything, you know, and they graze on everything and they had nothing there, you know, because they usually ruined the water and all that stuff.*
- *Well, you know, with a lot of animals like that, it does a lot of damage to whatever it steps on, but then it'd grow back anyways, when they get out of there.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the animals at this site,” Indian people responded:

- *They killed the deer and they left it there, and they killed the elk and left it there. They didn't even bother to pick it up or nothing. All they did was just laugh going by and shooting anything they could find, and we were like what kind of people are these. Everything was trampled down and that's probably the same way it was when they were traveling through. You know, because the wagons they trampled all over anything, and the horses they didn't care whether they were still standing there or not. Maybe if we had four or five wagons go through here, next time you'd come you wouldn't see anything.*
- *I think they had to hunt the, hunt or game here, to get something to eat. They probably do that all along their trip, not just here. Yeah, I mean, to a certain extent [the animals would leave], I mean, they'd go some where else probably come back.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the geology of this site,” an Indian person responded:

- *People just don't realize what they're doing and in the past they didn't either, and the , and they didn't think not to use anything, because they had, they lived differently from the Indians.*

When asked “were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *The Indian people had a skirmish with the whites down below here near the river. One person was killed. It was bows against guns. One of the Indian people wrote it down on a rock about the skirmish (see Figure 4.28). He chipped the story into the rock.*
- *[Would the horses have walked in their fields?] They said they used to have to farm down there. Some kinds of seeds, when they used to live in these little hovels. Yes. Just like the car tracks, to go over them, over and over, and water gets in there, then causes the erosion, and deep tracks where the water washed it up. It's out of that hundred-year flood, the one they were talking about, that's what came down through here not very long ago. Washed everything down through there, even washed some of them homes into Santa Clara River down there. The Santa Clara even broke the bridge down there, but the dams still there. Filled that dam up clear full. All sand.*

- *People's crops were stolen or trampled. Later years brought sickness and also the killing of Paiute people occurred.*
- *The connected places were impacted by the people traveling along the trail and the horses trampling everything.*



Figure 4.28 Rock Peckings that Document a Conflict between Indians and Euro-Americans

- *Definitely! They'd leave a trail. With the amount of animals they were bringing through, I think they'd stomp on quite a bit of vegetation. The animals probably eat up a lot of the bushes and shrub trees like that, and a lot of them were considered, we can use them in our way of life.*
- *Indian people had to find alternative sites that were not used by the non-Indians.*

When asked “if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people go somewhere else to replace activities formerly done here, where did they go and why,” Indian people responded:

- *They probably changed their relationship [with the travelers] over time, because up in here, this area, they stayed during the summertime and head down over to the Grand Canyon during the wintertime where it's warm, and they'd probably have another people*

come up and stay, or I don't know. They probably got used to them [the travelers], if they set aside a certain place, a certain area, that they stayed, then they'd come back every year, during the summertime. They would see the travelers again, and probably know what they were doing. They'd probably come by after they left to see what they could find.

- *They went to another water source; also to plant their food in another place. The other places were chosen because it was a safer place to go.*
- *But when its like this it's open range, it's good, because you can go hunting and all that and it doesn't quite a ways down that way, and maybe they went to another place like Enterprise or wherever you go, Pine Valley down this way, and you can't, there's no way, so they'd have to have a special place like here to do all that. Unless you moved your house, but still it's long.*
- *I think they would have, to get away from them. Could be anywhere, I can't tell you that.*
- *They would have gone some place close by with the same site characteristics to continue traditional use.*



Figure 4.29 Southern Paiute Representative and BLM Representative

When asked “if Indian people could no longer use trails in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people find other trails to replace them and why,” Indian people responded:

- *They'd have to. I dunno. Well, I think, they'd choose other routes because they need to stay, they'd probably be staying away from this main trail that they, the Spanish Trail, that they made, I think they probably made their own trails in a different area to stay away, and then too, I dunno, maybe they wanna mingle with them too. Yea they'd have to [trade with them], I think. Probably food, if they grew gardens and stuff like that, I think they'd trade that kind of stuff with them.*
- *The old Indian trails were impacted by the travelers. Horses turned the hard ground into soft ground; this would have caused erosion just like car tracks. The floods would take the dirt and cover the agricultural fields downstream. The horses also flattened the grass which would also contribute to the erosion and damage to the downstream farms.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of the ethnographic comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section is focused on how Southern Paiute people have traditionally used the Tunakwint-Camp Springs region for thousands of years. This region was one of the largest agricultural areas in the Southern Paiute territory and thus directly impacted by the arrival of Euro-Americans.

Old Spanish Trail Travel through the Tunakwint and Camp Springs Area

During the OST period, explorers, travelers, and traders noted Southern Paiute use of this area. In 1848, a man by the name of Orville Pratt traveled through southern Utah. He was a lawyer employed by the Secretary of War in a legal investigation and was assigned to proceed on to California and Oregon. He traveled along the OST with an escort of sixteen men (Pratt 1954).

Orville Pratt documented Indian farming at many spots along the Santa Clara. He also noted that Indian people sold their surpluses of corn to OST travelers. Pratt's party spent three days traveling from Mountain Meadows down the Tunakwint to the Virgin River. In his diary, Pratt wrote for October 6, 1848:

Left the Vegas of Santa Clara [Mountain Meadows] and made a march of 30 m. to the Piute Cornfields on the Santa Clara River. Camped at an early hour and found very fair gazing. The Piutes at this place are said to be the worst on the route. Bought some corn of them & made them some presents. (Pratt 1954:354)

The editors of Pratt's diary, Leroy R. Hafen and Ann W. Hafen identified the location of the "Piute Cornfields" as "Above the site of Gunlock" (Hafen and Hafen 1954:354). Pratt's party camped at the irrigated fields of a sedentary Southern Paiute settlement and traded for food supplies (Pratt 1954). By 1848, Southern Paiute people were exchanging food items with OST travelers. This activity became so important to Indian people that they were prompted to grow a surplus of corn. Exchanging corn with the non-Indian travelers might have been a mechanism to establish a peaceful relationship in the hopes that travelers would not kidnap Paiute children or take their land.

Pratt noted in his diary for the following day that his party saw Indian fields at several locations along the Santa Clara.

Camped today about 2 o'clock 1/2 a mile from the Santa Clara at a little spring on the hill after leaving the river. Grass fair but scarcity of water for animals. It has been very windy both yesterday and today and the air has been quite chilly withal. Two Piute Indians stayed with us last night, and behaved well. Their cornfields we frequently saw today on the river as we came along. Made a march of what Mr. Choteau puts down as 30 m. but which I don't think is more than 15! (Hafen and Hafen 1954:354)

The Hafens identified the spring where Pratt camped on October 7, 1848 as Camp Springs (Hafen and Hafen 1954:354). Traveling in October, Pratt passed through the area at the beginning of the fall harvest, and the number of Southern Paiute maize fields along the Tunakwint impressed him.

Agriculture occurred along the Tunakwint river system, and Paiute communities were located near by. These communities comprised the Shivwits District of the Southern Paiute nation. Throughout the different districts, agriculture was found along the rivers and desert oases.

The Southern Paiute Nation and Traditional Agriculture

Traditionally, the Southern Paiute nation was comprised of 15 regional units. Each regional unit, or district, was a sphere of influence within a geographic territory. Each district's territory was shaped by natural features, such as watercourses and watersheds, and in part by the existence of neighboring groups. The Paiute groups within each district used political agreements to define their spheres of influence and resource harvesting territories.

Each Southern Paiute district encompassed a territory that contained either all or most of the resources necessary for the survival of its population. These resources ranged from oasis areas, with either riverine or spring-fed sources of water sufficient enough for irrigation farming, to upland and desert areas containing game animals, piñon nuts, and wild seed grains. There were permanent settlements near irrigated fields in oasis areas, and temporary camps in outlying upland and desert territories. These camps were used for intermittent and seasonal harvesting of wild plant and animal resources.

Southern Paiutes often maintained small permanent habitations near springs to safeguard their claims to those crucial resources. Horticulture defines human settlement geographically because irrigation farmers must spend considerable time in their fields irrigating, preparing soil, planting, weeding, scaring away animal and bird predators, harvesting and processing plant foods, and providing for storage of crops. This was true for Southern Paiute farmers and resulted in a semi-sedentary way of life. Most of the population clustered in oasis areas during the growing season, but also increased during the winter.

In the Shivwits District, Southern Paiute people had large agricultural fields along the Tunakwint and at some of the surrounding springs, like Camp Springs. Farming had a significant role in Southern Paiute life. They planted a variety of different crops, typically inter-planting several crops in the same field. Their crops included the aboriginal cultivars of corn, squash, beans, sunflowers, chenopod, and amaranth, as well as introduced Old World crops including wheat and peas. Southern Paiute systems of inter-planting shared many characteristics with multi-cropping systems used by indigenous peoples throughout most of the Western Hemisphere.



Figure 4. 30 Traditional Southern Paiute Fields along the Tunakwint

Accounts written by early travelers before the beginning of colonization on the Tunakwint document the cultivation of corn, squash, beans, and sunflowers among the Southern Paiutes of this region. Anthropologist Robert H. Lowie conducted ethnographic research among the Santa Clara Southern Paiutes in the early 1920s. He concluded that they had practiced irrigated agriculture before contact:

The Indians planted both corn (hawu'B) and squashes (paranaro) before white contact. Irrigation was employed. Ditches were dug with an implement called passau, which was shaped with a sharp rock. (Lowie 1924:200)

Historian Andrew K. Larson noted the centrality of agricultural produce in the diet of the aboriginal farmers of the Santa Clara:

They supplemented their diet of corn with meal made from grass, weed, sunflower, and pumpkin seeds, and the strong mesquite bean. (Larson 1961:21)

Corn is the most thoroughly documented aboriginal crop of the Southern Paiutes, because it was the crop of greatest interest to Euro-Americans, eagerly sought by Euro-American travelers and settlers. Euro-Americans purchased corn from Indian farmers for their own consumption, and grazed their livestock upon the cornstalks in Indian fields.

Native Americans typically inter-planted beans with their corn. Bean plants sustain root bacteria, which fix atmospheric nitrogen. Nitrogen fixed on bean plant roots in turn fertilizes the adjacent corn plants and in turn, maize stalks provide running beans with support to climb upward toward sunlight.

Members of the cucurbit, or squash, family are other well documented crops grown by the Tunakwint farmers. The Southern Paiutes often inter-planted cucurbits with maize. In 1849, James Brown recorded Indian inter-planting of squash with maize a day's travel downstream from Mountain Meadows: "Next day we came to some Indian farms where the savages had raised corn, wheat and squash" (Brown 1954:120).

In addition to the familiar Native American crop trio of corn, beans, and squash, Southern Paiute farmers grew a variety of other plant species, which were inter-planted in the same fields or in separate cultivated plots. Early settler, Thomas D. Brown noted an unfamiliar cultivar in fields on the Tunakwint; he took it to be a weed but the Southern Paiutes corrected him:

There were good crops of wheat ripe in some places, which they were cutting and using, and abundance of corn, many beans, and a green substance between the rows, which we stooped and wished to pull out, till they told us it was part of their food (Brooks 1972:57).

The plant Brown saw may have been amaranth. In 1857, Elder George A. Smith saw a plant resembling amaranth among the corn plants in the Indian farmers' fields on the Tunakwint. He noted that in addition to corn:

They also cultivated a certain weed resembling the red root or green amaranth, for the sake of the seed it yielded. When I went down there and stepped into their corn patch, I pulled up one of these red roots, and they were offended about it, observing that they raised them for the seed. (Smith 1861:3)

There is additional evidence for the cultivation of amaranth by Tunakwint area Southern Paiutes. Edward Palmer, a professional botanist, obtained the herbarium type-seeds for Native American amaranth from Southern Paiutes in the 19th century (Palmer 1878). When the seeds Palmer collected were germinated, they yielded the type specimens for *Amaranthus hypochondriacus*. These seeds are enlarged and white in color, contrasting with the small, dark-colored seeds of wild amaranths (Bohrer 1962; Dobyns 1974). Palmer's amaranth seed collection came from a persisting Native American horticulture sufficiently complex that it included domesticated plants not cultivated by Euro-Americans. This additionally confirms that Southern Paiute farming preceded Euro-American colonization.



Figure 4.31 Southern Paiute Irrigation Canal

Another crop grown by Southern Paiutes, but not regarded as a significant crop by early Euro-American observers, was chenopod. North of the Southern Paiute nation, the Goshute and Shoshoni peoples planted chenopods. Chenopod cultivars were also domesticated in tropical Mesoamerica. The San Juan Southern Paiutes still cultivate *warai* (the Southern Paiute name for chenopod). The Southern Paiute wheat harvesting technique also supports chenopod cultivation.

In June of 1854, Mormons at the site of Washington, Utah, recorded the procedure used by the local Indian people to harvest their wheat. Two person teams harvested the wheat. One person dug up wheat roots with a digging stick while another person pulled the entire plant free from the soil. The second person used another stick to beat the soil from the roots and then formed the plants into shocks (Corbett 1952). It appears that these Southern Paiutes had traded with other Native Americans for wheat seed, and had not seen the Euro-American method of harvesting wheat by cutting the stalks. Instead, they harvested wheat, using techniques they already knew from harvesting chenopods. Chenopods must be pulled and dried before threshing. At the present time, Central Andean native farmers dig and pull mature *Quinopodium quinoa* plants and stack them against house walls under the eaves to dry and mature. Once the plants mature and dry, farmers will thresh out the grains. It is possible the Southern Paiutes cultivated a domesticated chenopod (*Chenopodium* spp.) they called *warai* before they integrated wheat into their fields.

Sunflowers were a domesticated and irrigated crop amongst Southern Paiute people. Euro-Americans sometimes did not recognize cultivated sunflowers as food crop plants in Native American fields since native North American sunflowers can seed themselves in disturbed soil. This self-seeding ability makes sunflowers capable of perpetuating themselves in the wild on the floodplains of the Virgin River watershed. Both ethnographic information and early Euro-American travelers' accounts make clear that Southern Paiutes grew sunflowers in many fields widely scattered through Southern Paiute territory. Cultivation of sunflowers is reported for widely distributed locations within Southern Paiute territory, including Beaver Dam wash, a tributary of the Virgin River located just west of the Tunakwint. People traveling from Salt Lake to Southern California reported sunflowers growing under irrigation with other domesticated food plants on Beaver Dam Wash (Bigler 1954).

Southern Paiutes also irrigated, encouraged, and may have transplanted or seeded gooseberries, currants, morning glories, mesquite, and grapes, as well as other minor crops. Early observers did not record all of these as cultivars in the Tunakwint area, but all of these cultivars were documented by early observers among various Southern Paiute groups. Some or all of these crops may have been grown by Shivwits Paiutes without having been recorded by early Euro-American observers. Some of these may have been planted on occasion, though most were capable of seeding themselves. Even when they did not plant these species, the overall water-management and plant management strategy of Indian farmers apparently included assuring good growing conditions for these valued species.

Southern Paiutes grew plants for fiber as well as for food. They did not cultivate cotton, but did plant Devil's Claw and encouraged willow and milkweed. Observations of Mormon explorers of the Virgin River watershed during the early 1850s make it clear that milkweed was an abundant plant in the river floodplain (P. Pratt 1954; Martineau 1857). The various native species of *Asclepias* could reproduce themselves without human aid. Yet the reported near-dominance of milkweed plants in the riverine oasis vegetation suggests that Southern Paiutes may have deliberately planted seed there.

As already noted, Native American horticulture includes a spectrum of strategies ranging from (a) the planting of completely domesticated plants like corn to (b) the encouragement (and watering) of volunteer plants that grow in cultivated fields without the need of deliberate

planting to (c) watering and transplanting strands of wild fruit bearing crops like berries. Most nineteenth century Euro-Americans had little awareness of, and little interest in, Native American horticultural strategies such as inter-planting and the cultivation of plants not dependent upon humans for propagation. Euro-Americans assumed that Euro-American style farming was superior to Native American farming. They also assumed that they had much to teach Native Americans about farming and that Native American farmers knew nothing worth learning about.

Euro-Americans perceived most of the plants inter-planted with corn as "weeds" that were left there by Indians too lazy to tend their fields. It is therefore not surprising that most accounts of farming in the Shivwits district mention only corn, or at most corn and beans or corn and squash. The lack of information about inter-planted crops in Indian fields along the Santa Clara should not be taken as evidence against the presence of a variety of crops inter-planted in these cornfields or in separate plots because of the perceptual biases of Euro-Americans present and their interest in appropriating Indian farmlands.

By mid-nineteenth century, Shivwits Paiutes had incorporated potatoes (a New World crop) and wheat (an Old World crop) into their cropping systems. The Southern Paiutes most likely obtained these crops through their networks of traditional exchange with other Native American peoples who were in direct contact with the Spanish settlements.



Figure 4.32 The Tunakwint

Southern Paiutes planted wheat on small raised mounds rather than on flat Euro-American style fields. In *Agricultural Pioneering in the Virgin River Basin*, Mormon historian

Andrew K. Larson noted that several early observers recorded that the Indian people of this area planted their wheat in hills (Larson 1946). An eyewitness observer in 1854 reported that

What little wheat they have they plant like corn; their wheat is ripe, they are harvesting it and it is as large as any I ever saw. (Robinson quoted in Brooks 1950:29)

The Southern Paiutes harvested their wheat in a manner different from that used by Euro-Americans, as noted by Hamblin, an eyewitness observer in 1854:

The Indians were also harvesting their wheat. Their manner of doing so was very primitive. One would loosen the roots of the wheat with a stick, another would pull up the plant, beat the dirt off from the roots and set it up in bunches. I loaned them a long sharp knife, which greatly assisted them in their labors. (Hamblin 1969b:27)

Domesticated in the Middle East, wheat reached Southern Paiute farmers no later than 1826 (Brooks 1977). By mid-19th century, wheat was grown widely in Southern Paiute irrigated oases (Bigler 1954; Rich 1954; Smith and Steele 1852; Pratt 1954; Whipple, Ewbank and Turner 1855; Jensen 1926).

Larson noted that Indian farmers on the Tunakwint and Virgin Rivers practiced a rotation that left land fallow for several years before they planted the same field:

A forced rotation probably worked in their favor, because they merely harvested the corn and then planted on new ground, returning to the old when the roots were enough decayed to permit them to plant again. (Larson 1961:21)

The fields were watered using a system of hand constructed irrigation canals and diversion dams because this type of agriculture was more reliable than depending on periodic river flooding. This has been found throughout traditional Southern Paiute territory as the preferred form of agriculture. Southern Paiutes adapted their irrigation technology to a variety of environmental conditions in their diverse homelands. On the Colorado the volume of flow was too large to permit diversion. Instead, Southern Paiutes cultivated some of the sand bars after spring inundation (Laird 1976; Powell 1957; Euler 1966; Brooks 1977). Spring flows are physically easier to divert and manage. Southern Paiutes diverted water from many springs throughout their territory to irrigate crops (Lyle 1872; Lockwood 1872; Angel 1881). At the head of Pahrangat Creek, at Crystal Spring, Southern Paiutes constructed an irrigation canal that was 8 feet wide and 6 feet deep which ran for several miles (Angel 1881). Water flow on the Tunakwint was slow enough so that Southern Paiutes could successfully dam it and divert its waters.

Natural Resource Partnerships- Beaver Ecology

The Tunakwint was a delicate ecosystem that required attentive management practices to prevent large-scale environmental degradation and the destruction of Southern Paiute farms.

Paiute farmers depended on the beaver dams along the river to help control the flow of water and maintain stability in the riverine system.



Figure 4.33 Beaver Cut Marks on a Tree along the Banks of the Tunakwint

The beavers were extremely important in promoting biodiversity across the Tunakwint landscape. When beavers were present in the river, they acted as ecosystem engineers by modifying their environment more than any other species present. The dams slowed the flow of water and created large areas of still water, which are ideal habitats for fish and many species of birds, mammals, amphibians, reptiles, and others. The ponds filtered sediment out of the stream

water and improved the quality of water downstream for Southern Paiute farms and the communities. The water percolated into the soil causing the aquifer to recharge and it created moist upland habitat in areas surrounding the dams. Over time, the ponds would fill with sediment and the ponds become shallower. Eventually the dams break, and the ponds turn into marshes and meadows. At this point in time, the beavers moved to other parts of the stream or watershed to begin this process again. The meadows formed by beavers have nutrient-rich soils, more light penetration, higher soil moisture, more nitrogen, and different vegetation than in the adjacent riparian forest (Johnston et al. 1995; Wright et al. 2002).

Due to the beavers' modification of their environment, Southern Paiutes were able to farm along the Tunakwint for well over a thousand years during which time the land remained largely in balance. The close association of Indian farms and beaver dams suggests that the presence of beaver dams was an intentional part of Southern Paiute water management strategy. This association was noted by early travelers and settlers in the region. One man named Thomas D. Brown noted:

There appears [to be] many patches of good wheat land on this stream, across which Beaver dams are built every few rods, & the banks being low, the water overflows much & renders the bottoms good grazing patches (Brooks 1972:55).

Beaver engineering regulated the hydrological system during times of extreme flooding and drought. During times of flooding, the dams held back water to prevent rapid flows down stream. The dams greatly reduced erosion and channelization, which protected Paiute farms and access to water for irrigation. Additionally during times of drought, the beaver dams retained water which was used to support agriculture and the surrounding communities.

Natural resource partnerships with beavers were common throughout the southwestern United States. Many tribes depended on beavers regulating the water systems in order for sustainable agriculture to occur. The O'Odham, along the San Pedro River in southern Arizona and Zuni Pueblo of New Mexico and Arizona depended heavily on beavers to keep their ecosystems healthy (Dobyns and Stoffle ND; Albert and Trimble 2000).

The San Pedro River O'Odham were considered ethnic Akimel O'Odham who practiced irrigated agriculture. An important aspect of O'Odham agriculture along the San Pedro was the fact that the Indian people and beavers, similar to agriculture along the Tunakwint, jointly managed surface flow. The San Pedro beavers kept some reaches of the river perennially swampy and left other reaches intermittent. The O'Odham lived along reaches of the river that beavers could not always keep perennial. This was indicated by at least one walk-in well that was dug to reach dependable spring water, which was discovered in 1895 by Euro-Americans from St. David, Arizona.

It has been estimated that O'Odham people and beavers actively co-managed the San Pedro for 10,000 years. Dobyns and Stoffle stated that:

...late Pleistocene big-game hunters attacked mammoths mired in a pond on what is not called Greenbush Creek, killed and butchered them. If the beavers on the

upper San Pedro River watershed did not create the pond that trapped the mammoths, they certainly dammed the creek to create the pond that caught sediment to cover the mammoth bones with eight feet of pond clay (Dobyns 1989; Haury 1953). It seems quite safe to infer, therefore that beaver played a fundamental role in the San Pedro River flow management from late glacial times (Dobyns and Stoffle ND).

Beaver dams along the San Pedro were far less vulnerable to flood damage than man-made dams like those constructed along the Gila River. The beaver dams offered a stable system of crop irrigation through the use of pond overflow (for a photograph of an O'Odham irrigation canal see Figure 4.34). Tapping into the beaver ponds required less work and the Indian farmers took advantage of an already modulated stream flow. The farmers grew a variety of crops ranging from the traditional food crops of corn, beans, and agaves to winter wheat, which they began growing later. They also grew a range of fibers used in textile production. A special dimension of San Pedro horticulture was that the O'Odham grew large quantities of cotton and plants that were used to make dyes such as Dock (*Rumex hymenosepalus*).



Figure 4.34 Dr. Henry Dobyns Standing in an O'Odham Irrigation Canal

Like the Southern Paiutes along the Tunakwint and the O'Odham along the San Pedro, people of the Zuni Pueblo depended on beavers for agriculture and the maintenance of biodiversity along the Zuni River. To the Zuni, the beaver is viewed as a culturally significant and important animal. Like many other places, the beavers along the Zuni were hunted to extinction. As a result, in the late 1990s, the tribe, in conjunction with Fish and Wildlife, reintroduced beavers back into the ecosystem. Twenty-three beavers have been relocated back

into the river system. The beavers have created a well established series of dams which is linked to improving the habitat. At the time the study was conducted, Albert and Trimble predicted that the river would be restored to a traditional ecosystem and Zuni elders would be able to teach the youth about the importance of the beaver in river system management. (Albert and Trimble 2000)

Beyond the Old Spanish Trail- Impacts of Colonization on the Tunakwint

OST traffic made the Tunakwint and Camp Springs extremely vulnerable to Euro-American settlement in the region. As part of their plan to build a Mormon political empire from Salt Lake City to California, the Church of Jesus Christ of Latter Day Saints (LDS) began colonizing the Great Basin in 1844. The Church provided people with an infusion of capital and goods to start communities by taking over the riverine oases. In 1852, LDS church members explored southward from villages in central Utah, and in 1854, they began colonizing the Tunakwint region.

When the Mormons moved into southern Utah, they began to take Paiute agricultural fields. Not understanding the ecosystem, the Mormons mistakenly eliminated the beavers and their dams. The beavers were removed because their pelts had a high market value and because Euro-Americans were afraid that the standing water in the beaver ponds would breed malaria infected mosquitoes. This action resulted in violent outburst by Indian people. Historian Juanita Brooks noted that the wife of LDS church member Thales Haskell was shot by a young Indian man because Haskell was "away up the creek taking out beaver dams" (Brooks 1950:154). Elimination of the beaver dam flood control contributed to a series of disastrous floods that swept away much of the rich bottomland soil after Mormon colonization began.

Euro-American farming practices differed from Southern Paiute practices in ways that contributed to flood damage on the Tunakwint. Indian fields were clearings surrounded by protective vegetation. The Southern Paiutes formed these fields into hillocks that prevented flood waters from sweeping across expanses of soil. They planted multiple crops in these fields so the ground was well covered. In contrast, Euro-American fields were large, flat, and planted so bare soil was exposed between the rows. Their practices contributed to soil loss during irrigation, rains, and especially flooding.

Within two years, Mormon settlers had caused a large ecological impact on the environment. In the summers of 1856 and 1857, there were drought conditions on the lower Santa Clara, with very little water flowing in the lower reaches. Chief Tutsigavits attributed the lack of water on the lower Santa Clara to diversion of water by Mormons on the upper watershed. In June 1856, Chief Tutsigavets offered this summary of the Indian complaints about the impacts of Mormon settlement:

The chief of the Lamanites said the Toaquint is dead. You told us if we would hear your talk and plant corn, the Lord would bless us. My corn is dying for water. On what shall I feed my children next winter? The Mormons are using the water in Pine Valley. You said they would not use it there only for cutting pine

logs. We once could feed our children on rabbits when they were hungry. Now there are no rabbits for us; what do you think about it? (Hamblin 1951:23-24)

A few years later, in 1861, there was severe flooding on the lower Santa Clara. Many of the Mormons' houses and much of the farmland were swept away. Deforestation of the upper watershed by Mormon logging operations contributed to the severe runoff in heavy rains. The changes the Mormons had made on the lower Tunakwint by eliminating beaver dams and exposing soil in Euro-American style fields were conducive to maximum soil loss under flood conditions.

Most of the ecological degradation occurred after the end of the OST period. It is important, however, to understand the impacts that occurred after the end of trading along the route. OST travel opened up many of these areas to Euro-American travelers and settlers that without a well established trail, never would have ventured through otherwise.

After Mormon colonization, the Shivwits Paiutes continued to farm the Tunakwint even though many took wage labor jobs in St. George and Washington, Utah. The Shivwits people still followed their traditional annual cycle which involved traveling to the Tunakwint oasis to plant, irrigate and harvest crops, then, moving to various upland and desert locations to gather these native plant resources as they ripened; and then to attend various social and religious events and to visit with distant relatives.

The reservation period brought a series of ecological and legal struggles for the Shivwits Paiutes. The Anglo communities were denying the Indian people access to their traditional water source for agriculture and for everyday living. This conflict eventually led to a court battle in the late 1980s- early 1990s. The tribe and county government finally settled this long standing dispute out of court. As a result, the tribe was able to regain access to the Tunakwint.

4.6 THE SALT CAVE

The Salt Cave is situated near the convergence of the Muddy and Virgin Rivers, six miles south of the old Mormon settlement of Saint Thomas. The cave is located on the west bank of the Virgin River with its entrance high up on the cliff face (see Map 4.5). After the construction of Hoover Dam in 1937, the cave became submerged and was under water in the Overton Arm of Lake Mead. Due to the recent drought, the Salt Cave has reappeared above water.

Geology and Ecology

The salt found in this area is deposited in the lower part of the late Miocene to early Pliocene Muddy Creek formations. These formations are believed to be five to ten million years old. In the cliffs south of Saint Thomas, salt beds were exposed in various places for approximately twelve miles along the Virgin River Valley (Tingley et al. 2001). In some places, the salt was found in deposits shaped like mountain peaks. The tops of these peaks were composed of gypsum and clay and the base is solid rock salt (Shutler 1962). The principle salt source used by Indian people was a natural cave six miles south of Saint Thomas.

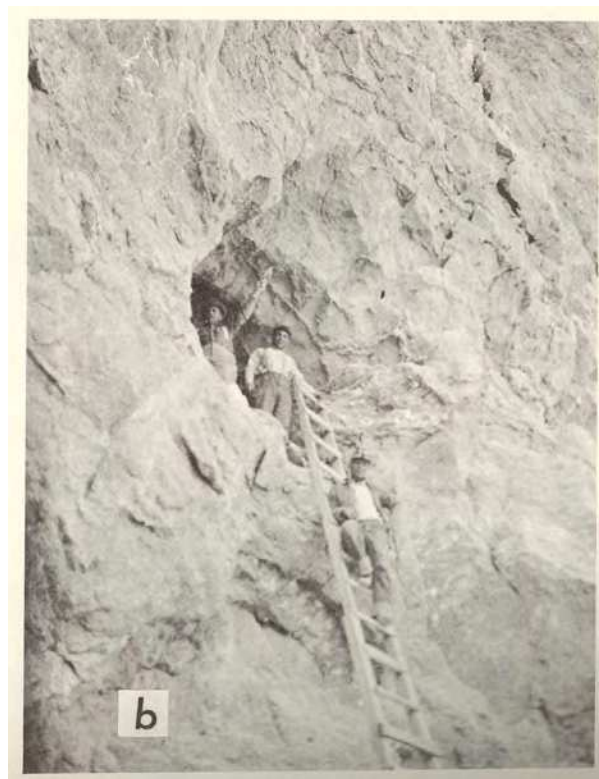
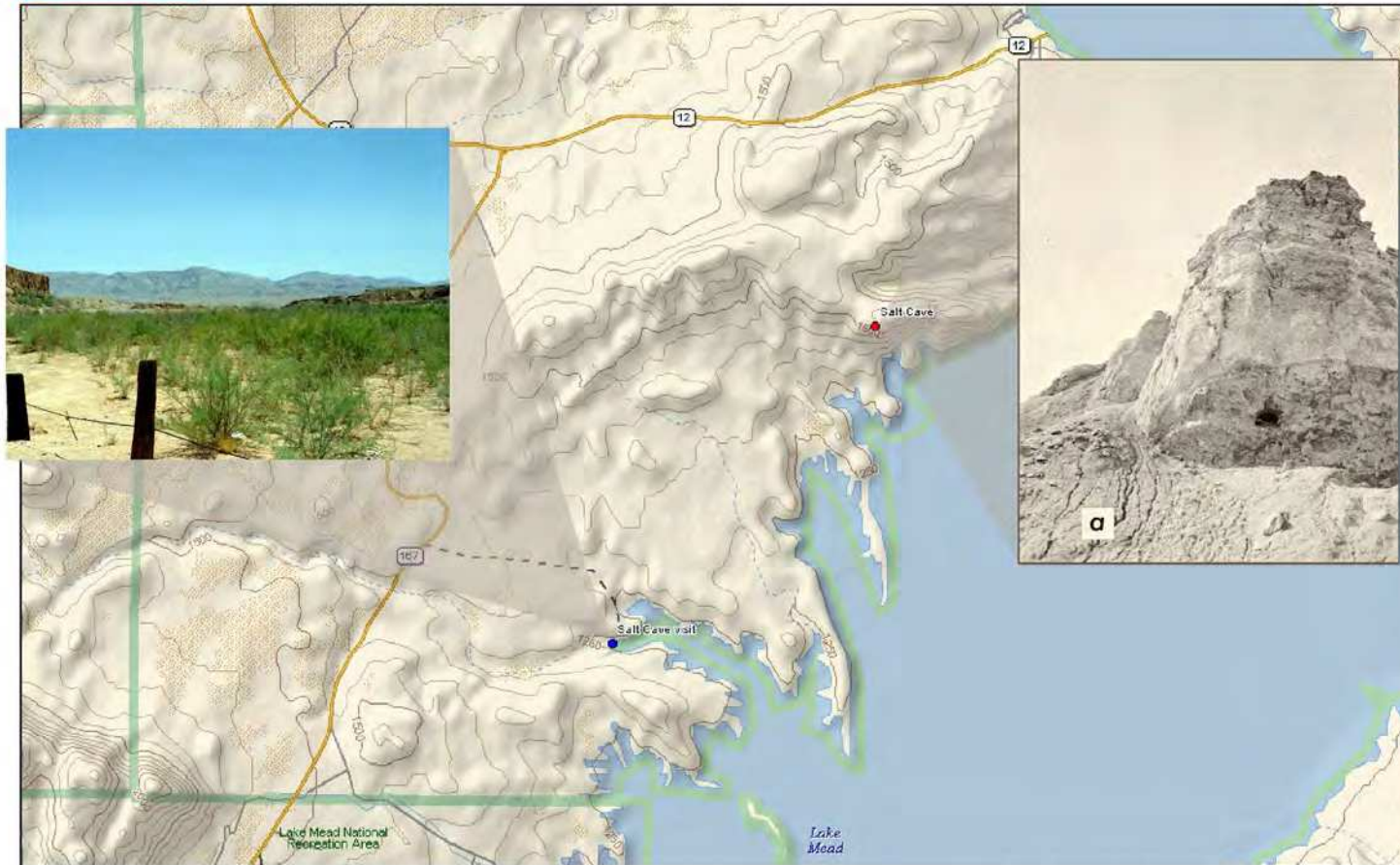


Figure 4.35 The Entrance to the Salt Cave (Shutler 1962)

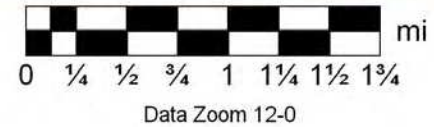
The Salt Cave has been documented by explorers, travelers, historians, archaeologists, and geologists since the early 1800s. Thirty years after Smith's expedition, Lieutenant Joseph Ives was commissioned by the United States government to explore and document the topography and geology of the Colorado River. During his travels, he heard stories from his Native American guides about a large cave where rock salt was collected. In his geology report, he wrote:



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Map 4.5 The Salt Cave and Surrounding Area

On the banks of a tributary of the Rio Virgen, a few miles from the Colorado, the Indians obtain large quantities of rock salt. Much of it is very pure and beautifully crystallized, and it is said to exist in immense quantities,” (Ives 1861: 40).

The geology of the salt and cave is discussed in detail in the book, *Thompson and West’s History of Nevada 1881*, the author, Myron Angel wrote:

SALT MOUNTAIN, three miles south of St. Thomas, is a ledge of solid crystalline salt, which, aside from its material value, is of remarkable interest from the fact that it contains traces of pre-historic man. It crops out along the points of the low hills three-quarters of a mile west of the Rio Virgen, is 75 or 100 feet in width, and dips slightly to the west. Trachitic tufa incases it on either side. The cañons from the hills to the westward of it cut through it to the depth of 50 or 60 feet. It is worked on the sides of these cañons, and is so hard as to require blasting. The tufa is a light chocolate color, and has stained the salt. The altitude of this mine is 1,100 feet above the sea, and about 300 feet above the level of the Rio Virgen. Another body of salt, of a similar character, crops out on the face of a hill on the east side of the river, about three miles south of the first described deposit. It can be traced, at intervals, for a distance of four miles to the southward, in the low hills about half a mile from the river. This body of salt is estimated to be about nine miles long, including the opening where the river passes it. Two miles west of the mouth of the Rio Virgen, on a bench of ground, is a natural salt well, with a funnel-shaped opening about 300 feet in diameter. The sides descend at an angle of about 30°. The water is seventy feet below the level of the opening, has a temperature of about 70°, and is very salty. Its depth has not been ascertained, but it is known to be more than seventy feet deep. To mine the rock salt costs about five dollars per ton, and it costs about eight to ten dollars per ton to deliver it at navigable waters (Angel 1958: 492).

The Salt Cave is found in the Mojave Desertscrub biome. It is the smallest of the desert land biomes in North American and is the intermediate between the Great Basin and Sonoran Desertscrub lands. In most portions of the Mojave Desert, the annual precipitation is between 65mm and 190 mm (Brown 1994). The plant community around the Salt Cave is dominated by Creosote Bush (*Larrea tridentata*). Found amongst the creosote are various types of yuccas (*Yuccas baccata* and *Yucca brevifolia*) and small cacti (*Opuntia basilaris* and *Echinocereus engelmanni*).

Summary of Interviews

Moapa, Las Vegas and Chemehuevi tribal representatives were interviewed by UofA ethnographers at this site. During the interviews, tribal representatives discussed the use and meaning of the Salt Cave and how it was impacted by movement along the OST. Table 4.8 details the breakdown of interviews by tribe and gender.

Southern Paiute Tribe	Male	Female	Total
Moapa	1	1	2
Las Vegas	1	0	1
Chemehuevi	1	1	2
Total	3	2	5

Table 4.8 Interviews at the Salt Cave

Native American Comments

Traditional Uses of the Salt Cave

When asked, “would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- *When he says you have to prepare yourself to receive it, like when you’re leaving the valley and you’re going around Dead Man’s Curve, there’s a road that leads off to the left, his dad used to say, in order to get that ompi [red ochre], you had to give an offering and then it would reveal itself. If you didn’t do that, then you would never be able to find it. That’s what our people always say...I think before they went into the [salt] cave, they gave offerings, some of us still do that today.*



Figure 4.36 Southern Paiute Representatives and UofA Ethnographer

Salt Cave Place Features

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	5	0	<ul style="list-style-type: none"> <i>The Muddy River and the Virgin River are tributaries of the Colorado River and they flowed south to the confluence of the Colorado that makes it important to Indian people.</i>
Was this site a source for plants?	5	0	<ul style="list-style-type: none"> <i>Indian people would have brought their medicine plants to this site. Indian people would have used the sage, creosote, willow, cottonwoods, rabbit brush, and tamarisks.</i>
Was this site a source for animals?	5	0	<ul style="list-style-type: none"> <i>There were coyotes, rabbits, tortoise, snakes, lizards, deer, hawks, eagles and doves associated with this site.</i>
Was there evidence of previous Indian use at this site?	5	0	<ul style="list-style-type: none"> <i>The Salt Cave, trails, the Muddy and Virgin Rivers, the songs and legends associated with this place, medicinal plants, and the surrounding mountain peaks were all part of how Indian people traditionally used this site.</i>
Did Indian people use the geological features at this site?	5	0	<ul style="list-style-type: none"> <i>The person who was given the position to be the one to go in and get the salt for the people had his own songs. There were songs associated with the cave for coming and going. You could probably get songs from the cave if you needed them.</i> <i>The salt from the Salt Cave was used in ceremony.</i>

Table 4.9 Salt Cave Place Features

- *Native people went there to extract the mineral salt. It was a large cave that probably was revealed to traditional people centuries ago and they used the salt as a mining entity for special ceremonies and for trading. The Salt Cave belonged to men. Women would come near; they would be in a support camp for them. They wouldn't go into the cave.*
- *The Salt Cave was and is sacred. Avi-Na-Va in Arizona is similar. The Salt Song Trail went through here. The songs pass through here to meet the other trails around. 'Tu-win-na-gat' is a sacred story told by Coyote by sacred tongue. Nobody talked of sacred things- only the shaman or wise men could have the authority. 'Na-win-na-gat' are like this: one is the story land which Coyote lives in and he carries the sacred story by the sacred talk. A lot of people say that this is the place where the Salt Song got its name. I feel that it works with other caves like there's one down near Prescott that's powerful, there's one...Pintwater that's powerful, Gypsum--that's powerful, and the ones in the Spring Mountains are powerful as well. Even the ones in the Providence Mountains. I think all together yeah that they some how they were together and the traditional people could see that.*
- *The person who was given the position to be the one to go in and get the salt for the people had his own songs. There were songs associated with the cave for coming and going. You could probably get songs from the cave if you needed them.*
- *I know that they always have one person in the tribe that handles all the trade items so that when they got ready to go trading they would carry them what ever way they could--baskets or bags on their bodies or water bags or what not and they would carry it...lot of it has to do with minerals and some of that came out of caves. So only one person designated could go out there and get it because some of them- the people that can go into caves that are authorized to go in there...you know that bats live there and they could be his helper or the mice could be his helper because under ground the cave is powerful. They have a lot of crystals in caves, you know only good shamans to me are the ones who can look into them and see if they're good or bad and they take it and they trade it with the Chumash...I know that on my part...the Chemehuevi. And shells...they would give us shells back. We went to the Joshua Tree to get our salt...make pilgrimages there...so that's the way I see this cave here. Certain people did their pilgrimages to come here to these caves and they don't share that with NOBODY. It belongs to that person...he alone...to the Moapa tribe or the Southern Paiute people...Las Vegas and down into that area...Pahrump. And they knew who had the salt and so this guy had a great understanding of the future and what was needed for the tribe. He would do all that he can and then in the process he would get that tribe some salt for appreciation. They would have a big ceremony to honor that person or what not.*

During an interview at Tecopa, an Indian person commented on the different types of salt used by Indian people. He said:

- *Salt was collected from Death Valley near Badwater and was different from that at the Salt Cave. Death Valley salt was for food and could be consumed. Salt from the Salt Cave*

was for ceremonial use and was of another texture and color. Also they had songs to accompany it.

When asked, “are there places traditionally used by Indian people near by that are connected to this place,” an Indian person responded:

- *Bands lived at Pahrnagat, Gold Meadows, Moapa Valley, Las Vegas, Shivwits, Cedar City, and Panaca and these all lived near water- tributaries to the Virgin and Muddy. They knew where to go for resources, minerals, and medicines. They traded with each other, had special ceremonies together and were considered one nation. They were connected traditionally with the land- a giver of life.*

Impacts to the Salt Cave

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what kinds of impacts did they have,” Indian people responded:

- *The travelers taking salt could have caused the world to be out of balance.*
- *If the travelers took salt, someone had to tell them where it was- they had to sneak away and get it.*
- *The cave probably wasn't appropriately approached. It could get mad. The trails were desecrated and prayers and songs were taken away.*
- *The Indian people wouldn't like it. That's probably why they had the wars. You build up resentment...and certain things at sometimes it has to come out. And that's what led up to it. All the little things that they done...you know that's how you make enemies and people think of you as an enemy because you do things to them that they don't like. One time builds up to enough and you say 'I've had enough.'*
- *You know when people come into the area, they don't know you, they have very high superstitions about things, and the next thing you know people around you are dying and the only thing that happened was that these people came into your area...they can put two and two together and say these people were bad...something is not right...get stabbed in the back.*

When asked if the travelers brought sickness to this site, an Indian person responded:

- *The Southern Paiute...all Indian tribes did not have an immune system to combat the sicknesses and only a few survived and could stand it. They're the ones that carried on the culture today. They're the ones that are still alive...so they went on to survive hundreds of years of...I can't say genocide because this is something that has been building way back in the old country you might say so here we were basically clean blooded or pure blooded or royal blood or what ever. But when it starts coming in here*

all the different germs and bacteria, the Indians didn't have an immune system for it so they did suffer a lot because of it. They didn't have any hospitals other than medicine men. And the medicine men tried to keep their people well but you know these things like viruses and germs get into their system basically killed them. They didn't have a way to battle it. I know that they weren't exterminated though because they got help along the way too. Certain people showing them what to do to pull them out of it. I think that's how they survived for thousands of years.

When asked “were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” an Indian person responded:

- *Yes. They were impacted by diseases, bounty hunters, slavery, persecution, shot at, and massacred.*

When asked “if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people go somewhere else to replace activities formerly done here, where did they go and why,” an Indian person responded:

- *Some people went to Pahranaagat Valley, some went to Panaca- Gold Meadows and some went to Shivwits. They chose to go there because their relatives lived there. The resources were compliable.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of the ethnographic comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic are intended to further inform the reader regarding these issues, but are not to be considered as a complete analysis of the topic.

This ethnographic comments section is focused on the Salt Cave was a ceremonial area for Southern Paiute people. This salt was used as a traditional medicine and was exchanged with different groups as a way of establishing and maintaining relationships. The ceremonial salt was used by Paiute leaders to negotiate access to their lands and to maintain balance.

Exchange in the Great Basin and Colorado Plateau

Tribes had a long standing tradition of exchanging goods and services with each other in the Great Basin and Colorado Plateau. Goods and services were exchanged in a number of ways. Some times, they were distributed during festivals where Indian people traveled for many miles to come together for social occasions. Exchange would also occur when Indian people would take part in expeditions in which they would travel sometimes great distances to other Indian communities to exchange items. Numerous scholars recorded the different Southern Paiute communities exchanging items amongst themselves and with neighboring groups, such as the

Mojave, Western Shoshone, Utes, and the Hopi (Hughes and Bennyhoff 1986; Steward 1938). Figure 4.37 from the Handbook of North American Indians Volume 11 details the types of items Indian people exchanged with each other and which communities were involved.

The term exchange is preferred over the word trade in this discussion because trade implies that these activities had strictly economic benefits. While some items were exchanged for economic gains, many items were given to other Indian people to establish and maintain social and political relationships. People also used exchange as a way of establishing relationships with places. In the Great Basin, Indian people visited hot springs for healing and doctoring and in order to be healed by the waters, a person would bring an offering. The offering is a gift to the spring so it would cure the ailing person.

There were instances when goods and services were not directly exchanged for similar items. As an alternative, Indian people would use shell and glass beads as a form of payment for the items they wanted to receive. The shells used in exchange represented four different genera and six different species of marine animals found along the Pacific Coast, ranging from Vancouver Island to the Gulf of California. The movement of shells in traditional exchange has been documented throughout the archaeological record in the Great Basin. Some shells date back to the early Archaic period which is approximately 5000 B.C. Figure 4.38 documents the major exchange routes and the movement of shell artifacts across the Great Basin.

Julian Steward documented the use of shells and beads amongst Great Basin people in the 1930s. One of the men interviewed by Steward recalled exchanging beads for certain items. For example, five gallons of pine nuts would be exchanged for ten strings of beads and two hundred strings were given to be used in the annual mourning ceremony (Steward 1938).

	<i>Items Traded</i>	<i>Items Traded For</i>	<i>Group Traded With</i>
Southern Paiute	buckskins	<i>Proboscidea louisianica</i> (basket material), and beans(?)	Shivwits
Kaibab	mescal fiber brush, buckskins, hides, bows	bows, arrows, red paint	Kaiparowits.
	buckskins	rugs (Navajo?)	San Juan
	buckskins, blankets	maize, beans	Saint George
	buckskins(?), blankets	pipes, maize and beans(?)	Cedar
	Apocynum nets	rabbitskin blankets, buckskins, serviceberry canes, dogs	Panguitch
	buckskins, horses, Navajo blankets, moccasins, woman's skin dress	horses, buffalo robes, white paint, dogs	Koosharem
	buckskins, horses	horses, knives, guns, yellow paint	Ute
	buckskins, horses, small hides	blankets, beads, and earrings	Navajo
	horses	Hopi and Navajo rugs, maize	Hopi
Kaiparowits	buckskins	blankets	Navajo
San Juan	arrows	buckskins, buffalo hides	Ute
	antelope hides, "wedding baskets," buffaloskin blankets	blankets, \$5 for a "wedding basket"	Navajo
	rabbit-fur rope, buffalo-skin blankets, firewood	maize, wafer bread, salt, horses	Hopi
	eagle-feathered arrows, red paint	mescal	Havasupai
Saint George	guns	horses, blankets, skins	Walapai
Panguitch	buckskins, rabbitskin blankets	moccasins with badger soles	Cedar
	Artemesia seeds	pine nuts	Beaver
Shivwits	?	Apocynum nets, salt	Moapa
		catlinite(?) pipes	Plains groups
Ute	hatchets, knives	mescal	Walapai
	horses	leggings, beaded blankets, porcupine quills	Arapaho
	buckskins, buckskin clothing, elk hides, elk hide storage sacks, buffalo robes, saddle bags, horses, bandoliers, beaded bags, tweezers, beaver and otter skins, buffalo generative organs, pitch for ceremonial whistles, "wedding baskets"	chief blankets, saddles, bridles	Navajo
	red ocher, blue dye; buffalo, deer, and antelope meat; hides; horses; backed bows; beaded vests; leggings; Navajo blankets	corn, corn meal, wheat flour, wheat bread, dried fruit, tobacco, sugar, coffee, pottery, woven goods, iron knives	Tewa Pueblos
	guns, black powder, bullets, percussion caps, Navajo silver shoe buttons	blankets, buckskins	Havasupai
		maize	Hopi
		catlinite pipes	Plains groups

SOURCES: Beaglehole 1937:84; Drucker 1941:172; Ford 1972:31-32; vol. 10:711-713; W. W. Hill 1948:377, 380; Kelly 1964:66, 86, 90-91, 159, 165, 173-174, 188; Mook 1935:166; Smith 1974:252; Spier 1928:361-362, 370; O. C. Stewart 1938:759, 1942:293, 337-338, 340-342, 344-345.

Figure 4.37 Southern Paiute and Ute Exchange (Sturtevant 1986: 241)

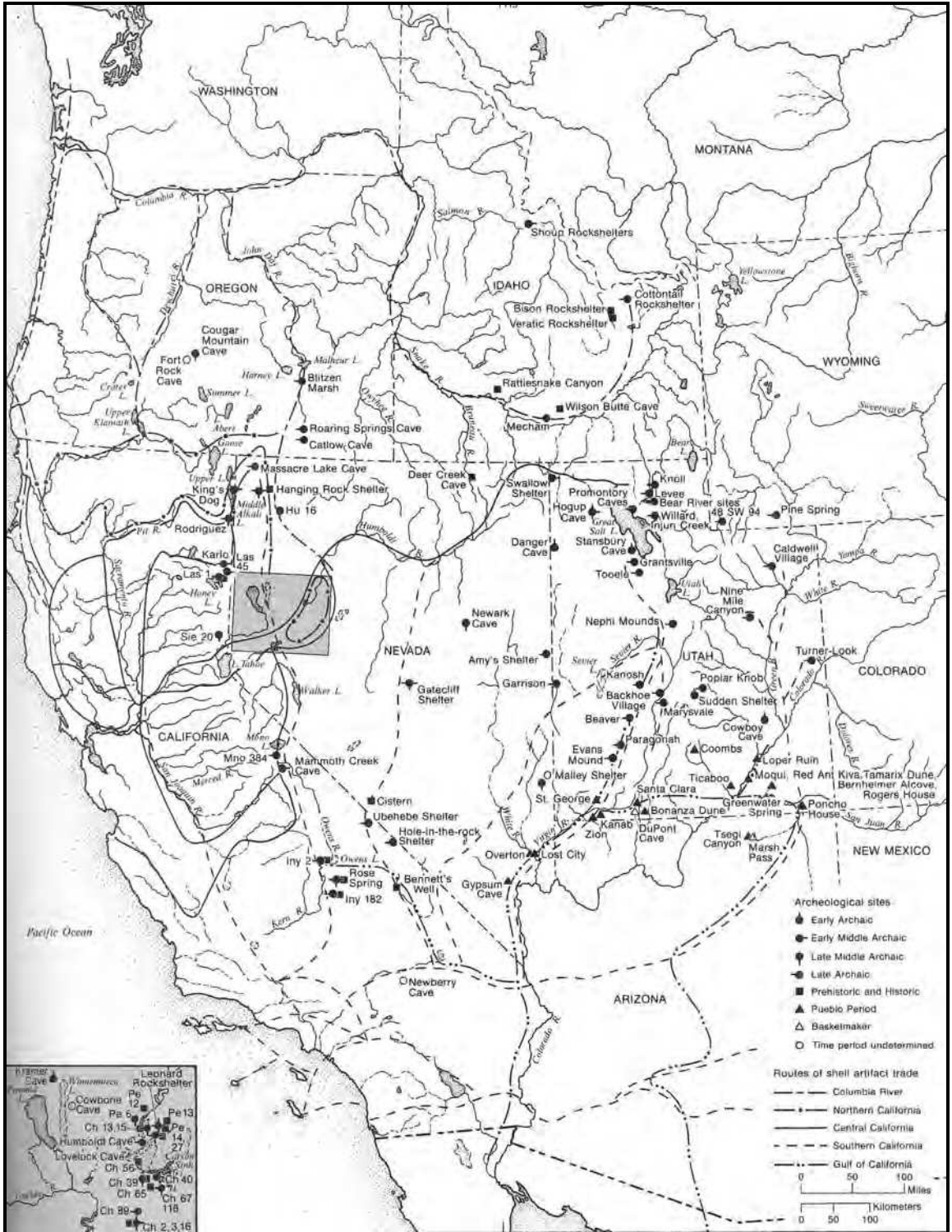


Figure 4.38 Shell Artifact Distribution, Major Sites, and Exchange Routes throughout the Great Basin (Sturtevant 1986: 241)

Puha and Traditional Exchange

Indian people in the Great Basin would exchange goods for medicines and other items to be used in ceremony. Specific Southern Paiute communities, for example, had access to medicines and ceremonial items within their territory but they would not always use the items found within their boundaries. They would acquire these items through exchange with different Southern Paiute communities. Obtaining these items had to do with a specific aspect of Southern Paiute culture, known as *Puha*. *Puha* is best described as power or a life force that exists in everything on Earth. *Puha* derives from Creation and it exists on three levels: upper (where powerful anthropomorphic beings live), middle (where people now live), and lower (where extraordinary beings with reptilian or distorted humanoid appearance live). In addition, it can move between these levels. *Puha* continuously flows back and forth from center to the periphery—both concentrically and radially therefore it connects, disconnects, and reconnects every element of the universe. The physical and the spiritual effects of *Puha* are experienced every time people interact with the landscape. In Southern Paiute culture, *Puha* is rationalized and enters into the social memory. *Puha* exists throughout the universe but, like differences in human strength, *Puha* will vary in intensity from element to element, object to object, and place to place. It varies in what it can be used for and it determines what different elements can do. Humans seek power through the identification and ceremonial use of places where *Puha* is concentrated (Stoffle, Zedeño, and Halmo 2001).

Places have different amounts of *Puha* depending on where the place is located, what features can be found in that place, what types of features are located near by, and what is the composition of the place. The Southern Paiutes, for example, would exchange items for a variety of minerals for different color pigments within the Southern Paiute nation. The Kaibab Paiutes would make pilgrimages into the Grand Canyon to collect red pigment (also known as red ochre or *ompi*), would also exchange hides, plants, and bows to the Kaiparowits Paiutes for *ompi*. Why would the Kaibab Paiutes trade for red paint if they had their own special place to collect it? The exchange with Kaiparowits could have occurred for ceremonial reasons. The ceremonies conducted by the Kaibab Paiutes may have required the *ompi* from Kaiparowits because it needed the *Puha* from the particular place where it was gathered.

Salt is similar in that many of the Southern Paiute communities had places where they would go to collect salt, but would trade for salt from the Salt Cave. The Salt Cave and its salt have immense amounts of *Puha*.

Puha and the Salt Cave

According to Southern Paiute epistemology, caves are places with high amounts of *Puha*. People would travel into caves to seek songs, spirit helpers, knowledge, and medicines. Caves are places only used by religious specialists and shamans; non-initiated people would not enter them. Items taken from caves were used to help individuals, communities, and the surrounding environment. Songs could be used in round dance ceremonies to bring the world back into balance. Medicines such as *ompi* and salt could be used in doctoring ceremonies.

The Salt Cave is a place visited during the Southern Paiute Mourning Ceremony, also known as the Cry. During this ceremony, songs are sung to help move the spirit to the afterlife. The songs, known as the Salt Songs, describe various places along the trail. After the deceased person's spirit crosses the Colorado River at the junction of the Virgin, the spirit visits the Salt Cave (Kelly 1933). For more information on the Salt Song, please refer to the Tecopa Area site description.

The Salt Cave is at the junction of the Virgin and Muddy Rivers. In the Paiute worldview, powerful places also exist at the convergence of hydrological systems. For people who live in the desert, water is the most important component of life. With its affinity for life, water is seen as a powerful element. Miller (1983) describes all types of water as sacred and its power adheres to its reservoirs as clouds, rain, snow, springs, seeps, lakes, streams or the occasional river in the desert. The Puha that is concentrated at places where two water sources meet creates special ceremonial areas. For example, there is a Ghost Dance site located in Kanab Creek near where it meets with the Grand Canyon and the Colorado River. Another site located in central Utah along the OST is the Rochester Panel. It is a ceremonial site located near the confluence of the Muddy and Rochester Creeks. The Hopi Salt Cave which was also used by the San Juan Paiute (Kelly 1976) is located at the junction of the Little Colorado and the Colorado Rivers.

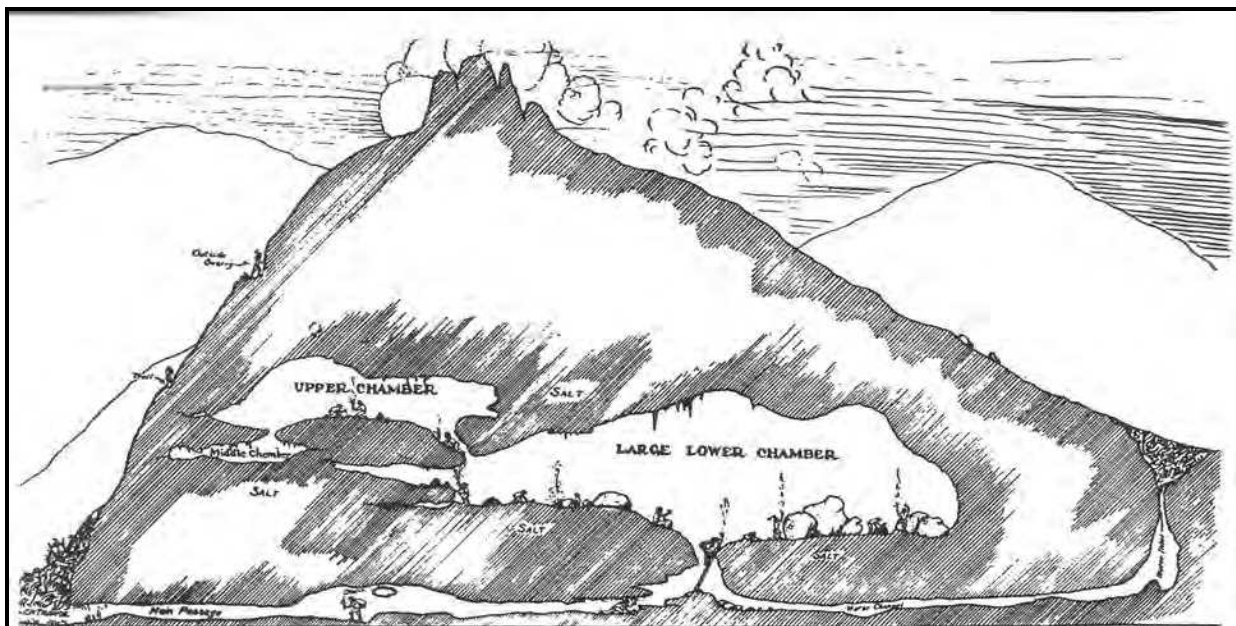


Figure 4.39 A Cross-Section of the Salt Cave (Schellback 1924)

Traditionally, Southern Paiutes used the Salt Cave thousands of years prior to the arrival of the Euro-American explorers and OST traders. The salt was mined from the cave walls and floor by chipping channels and undercutting to remove pieces that were up to several feet in diameter (Shulter 1962). Even though there were abundant salt deposits located outside the cave, Paiute people chose to mine the material in semi-darkness (Cerveri 1992). Religious specialists who had the authority to enter the Salt Cave mined the salt.

Religious specialists who were responsible for collecting salt from the cave had to prepare themselves for this activity. The preparation process would start in the specialists' home

communities and then continue along a pilgrimage trail to the Salt Cave. The home communities were major Paiute settlements located at permanent water sources. The pilgrimage trail, or more aptly named Puha Path, has various stopping points where the specialists would visit shrines to say prayers and leave offerings of water, pottery, arrowheads, or rare stones. Once they arrived at the cave, they performed a ceremony which would allow them to enter the cave and harvest the salt.

This pilgrimage is similar to the Hopi Salt trail to the junction of the Little Colorado and the Colorado Rivers. During the Hopi pilgrimage, men from each clan would set out once a year, usually after the fall harvest to collect salt. Prior to leaving for their journey, they would make special *pahos* (prayer-sticks) to take with them. The *pahos* were deposited at every shrine the men stopped at en route to the salt cave and they were left inside the cave itself. After the salt was mined, the men would visit the shrines on the journey home to say exit prayers for a safe trip home (Titiev 1937).

Salt can be found throughout the Great Basin in a variety of locations. The salt from these locations were collected in different manners and used in a variety of activities. Even the types of salt gathered differed. The Southern Paiutes living in the Pahrump Valley and the Resting Springs area would go to Death Valley to collect a white salt which is associated with cooking and food preservation. The salt from the Salt Cave was red and had a ceremonial use.

Salt as an Exchange Item

Prior to the OST's inception, salt was a common trade item for the Southern Paiutes. Indian use of the Salt Cave was documented by many early explorers who traveled through this part of Nevada. During his 1826-1827 journey, Jedediah Smith noted that Mojaves from the Cottonwood Island area Indians would travel up river to trade for salt and mineral pigments (Brooks 1977; Cerveri 1992). During this expedition, Smith also encountered Mojaves near the Salt Cave. He hired the men as guides and they led him to the cave where Smith entered the cave and gathered salt (Brooks 1977).

The offering of salt for exchange expanded to non-Indian people when travelers passed through southern Nevada along the OST. In 1830, it was recorded that Paiutes brought salt to exchange with members of a New Mexican trade party who were en route to California (Camp 1966). The purpose of this action is not revealed in the documents. One has to ask the question, why would Southern Paiutes exchange salt with OST travelers and not items that have a monetary value such as gold or turquoise? One explanation could date back prior to 1830 when early travelers passed through this part of Paiute territory. When the first groups of travelers passed through, Paiutes might have made efforts to give them red ochre, gold, turquoise, and obsidian without much success. The travelers were not looking for items that would weigh down their animals any more than they already were and therefore they were not interested. Being days away from any rendezvous point, they were low on supplies and they needed something that would have been useful for the remainder of their journey; rock salt would have been much desired by travelers to replenish their animals. By the time the travelers came through in 1830, the Paiutes again tried to engage them by bringing salt.

Indian people, however, continue to talk about the salt as having a primary purpose of use in ceremony. From the Indian perspective, the salt may have been an exchange gesture of a valued item in order to create a positive relationship and perhaps a mutually protective relationship. This is the contemporary interpretation of the wampum gifts given to government officials by the members of the Iroquois confederacy. The wampum was used to broker goods and services and land exchanges (Jacobs 1949). The Hopi followed a similar path in 1852 by sending pahos to President Millard Fillmore as a form of diplomacy, barter, and a religious offering (Whiteley 2004). The trade of items with high cultural significance was a common occurrence throughout North America and they were used to build relationships with other Indian or non-Indian groups. These items, whether, they were salt, wampum, pahos, or ompi, had certain expectations and rules that must be followed upon receiving them as gifts. If the people who received the item disrespected it in any way and consequently violated the terms of the exchange then the relationship that was created between the people involved in the trade became broken.

The Salt Cave after the End of the Old Spanish Trail

Salt continued to be an important exchange item through the Mormon period. The Mormon settlers in the Muddy and Virgin River Valleys were primarily agriculturalists, but also depended on salt mining for income. The Mormons obtained large amounts of salt through controlling the resource along the riverbanks and the cave south of Saint Thomas (Larson 1961). When the Mormons in the Muddy River Valley were relocated to Long Valley, Indian people reclaimed lands that were lost to them, including control of the Salt Cave.

Euro-Americans, however, did return to the area and regained some control over the cave until salt mining operations expanded in Utah. The salt from the cave never became profitable for Mormon and American miners because the mining was labor intensive and the mine never could produce the quantities of the Utah salt mines. After the failed Euro-American mining efforts, Indian people were able to reestablish their relationship with the cave and the salt again moved between dozens of Indian communities for ceremonial uses.

4.7 STUART RANCH

The Stuart Ranch is comprised of two parcels of land that span the Meadow Valley Wash (see Map 4.6). The wash is named for the natural grasslands occurring along the river at the mining town of Panaca. Mormon travelers, in 1854, described the valley as “a large meadow of wire and broad-leaf grass” (Carlson 1974: 75). Both it and its continuation, the Muddy River, were named by Jedediah Smith.

Geology and Ecology

The Stuart Ranch spans the wash and extends to the higher elevation Mormon Mesa, which is “comprised of the Mojave shrub community” (Bureau of Land Management 2004: 1). The wash here also separates the eastern Meadow Valley Mountains from the Mormon Mountains (Carlson 1974: 75). In this part of the range, the rocks are “cut by many faults” (Longwell 1965: 79) and characterized by several layers of flat beds near the Muddy River itself. The wash runs from Cap Valley south to Moapa, and since water is found year round, it hosts to a number desert species.



Figure 4.40 Overview of Stuart Ranch

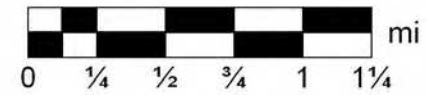
The Ranch is one of the few private holdings within the Mormon Mesa Area of Critical Environmental Concern (ACEC). As a riparian habitat with water year round, this portion of the Mormon Mesa ACEC is considered favorable to the Meadow Valley Wash desert sucker and the speckled dace, two state-protected fish species (Bureau of Land Management 2004). The property has also been a habitat for the desert tortoise since 1994, as designated by the US Fish and Wildlife Service. Sensitive bird species have also been sighted within the property, including the Southwestern Willow Flycatcher (Bureau of Land Management 2004).



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Data Zoom 12-4

Map 4.6 Stuart Ranch and the Surrounding Area

Summary of Interviews

During the recent field session, members of the Moapa, Las Vegas, and Chemehuevi tribes were interviewed at Stuart Ranch. The five interviews conducted at this site detailed the uses of the site and meaning of the petroglyphs, as well as impacts presented by travelers along the OST. The following table (4.10) is a breakdown of the interviews by tribe and gender.

Paiute Tribe	Male	Female	Total
Moapa	1	1	2
Las Vegas	1	0	1
Chemehuevi	1	1	2
Total	3	2	5

Table 4.10 Interviews at Stuart Ranch



Figure 4.41 Petroglyphs at Stuart Ranch

Native American Comments

Traditional Uses of Stuart Ranch:

When asked, “would Indian people have been attached to this place as it existed traditionally, and how would they have used it,” Indian people responded:

- *Along a trail, spiritual and medicine people would have used the petroglyph or vision quests to get healing powers.*

Stuart Ranch Place Features:

What resources would Indian people traditionally use at this site?

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	5	0	<ul style="list-style-type: none"> • <i>There is a spring nearby and that is important.</i> • <i>The water is important because it is medicine too.</i> • <i>The Muddy River and the Virgin River are tributaries of the Colorado River and they flowed south to the confluence of the Colorado that makes it important to Indian people.</i>
Was this site a source for plants?	3	2	<ul style="list-style-type: none"> • <i>There aren't too many plants. The landscape has changed so much because of the railroad and there was more water in the past.</i> • <i>Indian people would have brought their medicine plants to this site.</i> • <i>There's lots of mesquite, water willows, and datura. All are used by Indian people.</i> • <i>People used wild spinach, or Prince's Plume, datura, and greasewood. Greasewood is a medicinal plant.</i> • <i>Indian people would have used the sage, creosote, willow, cottonwoods, pecans, rabbit brush, and tamarisks.</i>
Was this site a source for animals?	4	1	<ul style="list-style-type: none"> • <i>There are jackrabbits, coyotes, and sheep in the winter.</i> • <i>There are coyotes, deer, turtles, rabbits, lizards, and lots of birds at this site. The canyon is a great place for an eagle habitat and sheep.</i> • <i>When the animals are plentiful, there are rabbit, quail, and big horn sheep. Turtles were used in the past for food. The shells were used for bowls.</i>
Was there evidence of previous Indian use at this site?	5	0	<ul style="list-style-type: none"> • <i>The red paint is important. It is not everywhere.</i> • <i>The petroglyphs with the red paint on them were used by Indian people. The horses and the wagons reflect what happened here. They are recordings.</i> • <i>Traditionally Indian people used the peckings and paintings.</i>
Did Indian people use the geological features at this site?	5	0	<ul style="list-style-type: none"> • <i>The grinding holes were medicine preparation areas. They are real close to the wash.</i> • <i>I found obsidian, little white shells, and rose quartz.</i>

Table 4.11 Stuart Ranch Place Features

- *This may have been a preparatory place on the way to the Salt Cave.*
- *The Indian people put in new kinds of peckings of cowboys and wagons in response to what was happening. They put these up there because this was a kind of historical event to them. Maybe [as a] kind of warning to other people.*
- *It is an entrance to something beyond because of the peckings on the walls. Another valley [like this] is Maynard Lake and Pahrnagat.*
- *Cave, trails, rivers, songs, legends, medicinal plants, mountain peaks, petroglyphs.*

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

- *[The peckings] were telling stories—encounters—of people along the trail. They tell more of past events.*
- *The red paint is something special. When other people who don’t use it destroy it just by being there, it takes away from the spirituality of the place. Spirituality is everything; like medicine that has been cut, it’s not as powerful.*

When asked, “are there places traditionally used by Indian people nearby that are connected to this place,” Indian people responded:

- *This place is connected to Potato Woman (Figure 4.42), about ten miles away, [through] the peckings with the mountain sheep. This place is special because of the mountain sheep. The Mormon Mountains also have a lot of mountain sheep up there.*
- *There could be a connection to the Muddy and Virgin Rivers.*
- *Pahrnagat Valley [was connected to this place], these nearby mountains where Potato Woman is and she has a connection with the sheep and this area has lots of sheep signs. There maybe peckings all the way up the river to Maynard Lake, Moapa, and the Muddy River. Maybe also some caves back in the canyon.*
- *This place is connected to the Moapa reservation, surrounding mountains where Indian people hunted.*
- *Potato woman is nearby—this is a spiritual story. Moapa Peak is nearby, perpetuating the legend of the dove. Gypsum Cave is nearby—giver of all things.*



Figure 4.42 Potato Woman

Impacts to Stuart Ranch:

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what kind of impacts did they have,” Indian people responded:

- *In the beginning, no, later, yes. Because of the water and the excellent vegetation, they (non-Indians) probably were run off.*
- *[The presence of non-Indian travelers on the Old Spanish Trail] had a very bad impact on Southern Paiutes—Slave trade, disease took 80% of the Southern Paiute people. The trail destroyed a lot of Indian people. The Spanish, Utes, and Navajo came in here taking Paiutes, renaming them, assimilating them. Mormons killed a lot of Paiutes because they wanted the water where the Paiutes lived.*
- *It [The Old Spanish Trail] was the start of cultural genocide, diseases and deaths.*
- *They [Indian people] would have been afraid [of non-Indian travelers]; maybe thinking they were bad spirits.*

When asked, “what impacts, if any, did the presence of non-Indian travelers have on the plants at this site,” Indian people responded:

- *Animals would trample water and eat up the grass nearby. They [travelers] brought in new kinds of plants. For some reason there is no cottonwood bark there.*

- *Maybe [Indian people] grew corn and beans and Europeans took it or their livestock got it, burned a lot of mesquite trees.*
- *[The non-Indian travelers] would try to utilize the plants if they knew about them; that's why we don't spread their medicinal purposes.*



Figure 4.43 Storied Rocks



Figure 4.44 Sacred Datura

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the animals of this site,” Indian people responded:

- *[Non-Indians] pollute the water, pollute the area with animals. By bringing in non-native seeds, they choke them.*

- [Non-Indians] *hunted the animals down, maybe stayed long enough to keep them from water.*
- *Animals were killed for food. The area is ideal for tortoise habitat and for laying their eggs in the sandy washes. They probably hibernated here, also.*

When asked, “what impacts, if any, did the presence of non-Indian travelers have on the traditional use features of this site,” Indian people responded:

- *Use of this trail likely increased as the Old Spanish Trail developed. They’d [Indians] probably use the same trail but be more cautious, more protective of themselves, changed time of day or year they used these trails.*



Figure 4.45 Southern Paiute Representative and UofA Ethnographer at Stuart Ranch

- [The peckings] *were telling stories—encounters—of people along the trail. They tell more of past events.*
- *Petroglyphs with red paint on the horses and wagons reflect what happened here—recordings.*

When asked, “what impacts, if any, did the presence of non-Indian travelers have on the geological features of this site,” Indian people responded:

- *Everything was impacted. Prayers and songs of gratitude should be sung, otherwise the heart will become prouder and arrogant.*

- *The waters around here are givers of life. Life is abundant, of which you understand nature's ways.*

When asked “were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *With the intrusion of the Old Spanish Trail, Mormons, we go into hiding. Moved over to the Elgin area, further west to the Pahranaagat Valley. There were two big camps.*
- *Diseases were brought in from other places. Just going to a place [affected it].*
- *Yes, because they [Indians] couldn't get to these places anymore.*

When asked “if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail, did the Indian people do somewhere else to replace activities formerly done here, where did they go, and why,” Indian people responded:

- *They'd have to do without or find another petroglyph. The loss of the Salt Cave meant getting salt from the Mormons or Grand Canyon tribes.*
- *They would have gone somewhere else where they could find similar resources up north, like to Caliente, to get away from non-Indians. The one thing they desired was to protect the people. Maybe they had a fight here and lost, so had to move somewhere else. They would not forget this place.*
- *They [Indians] left them [places like Stuart Ranch], and I know they don't forget. . . They don't forget; they just hope that these things will stay intact, thinking that maybe these people would get tired of them and move on, and then they could come back. But that rarely happens.*
- *Relatives lived there [at these other places]. Resources were compatible. Persecution of them.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of the ethnographic comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section is focused on how rock art or tæmpituxwinap found at Stuart Ranch are in close proximity to other powerful elements such as water and medicine plants. Also a focus of analysis is the high concentration of mountain sheep peckings that

surround European figures. Indian people believed that this was a way to channel the power of the mountain sheep to protect the area or warn away further travelers.

Puha is central to Numic culture, and an accounting of it is needed to understand the rock art panels found at the Stuart Ranch. As it moves across the landscape, puha “flows to different people, places, and things, and becomes concentrated in different areas” (Stoffle et al. 2004: 102). One person may have a higher concentration of puha than another; this applies likewise for rocks and the petroglyphs found on them.

Petroglyph is the technical name for figures found carved into rock faces; over time the word has been lumped with pictographs, or paintings on rocks, into one single denomination—*rock art*. This phrase, however, denotes an opposite sentiment than that expressed by Native American consultants. While conceptually rock art can imply “expressive cultural activities which are generally understood under the term art” (Stoffle et al. 1995: 3) and convey not only meanings but stories, the Western connotations attached to “art” do not mesh with Native American cognition of petroglyphs and pictographs. The Southern Paiute Consortium, during a project contracted with the Bureau of Reclamation in 1995, developed a working definition of *rock art* as describing petroglyphs and pictographs placed on stone surfaces for sacred purposes only, not as casual communications or an expression of cultural aesthetics. However, they much prefer the Paiute term *Tʰmpituxwinap* to describe both petroglyphs and pictographs. *Tʰmpituxwinap* translates literally as *rock stories*, but more accurately means *storied rocks*. Though finding a single term to replace *rock art* was extremely difficult because of the multitude of variations and the fact that no single term or phrase completely conveys the diversity of petroglyphs and pictographs, one Paiute elder described the choice as such (Stoffle et al. 1995: 3):

Tʰmpituxwinap is like a story-telling time in winter. It is when you are telling a story about someone else’s experience. Experiences as a child as well as mythology and legends. Like why do rabbits have white or brown tails? The deeper lessons.

The BARA team has worked with Numic peoples for over thirty years, and has found consistent and reoccurring themes when discussing *Tʰmpituxwinap*. The following can be found in *American Indians and the Nevada Test Site* (Stoffle, Zedeño and Halmo 2001):

- The meaning of a petroglyph or panel is not meant for the public nor widely shared by a community or ethnic group; the exact meaning is revealed to humans individually.
- Storied rocks derive from supernatural authorship, whether they are made by the spirits or re-revealed. The rocks were once alive, were once people, but became rocks for human benefit. The writings on them related to this transformation and are part of the cosmos.
- The strong beliefs that the rocks are alive, have power, and spiritual value, and fit into the larger scheme of things, corroborate the ethnographic conclusion that the worldview perceived that all the world is alive, its components all interconnected and

interdependent, and that power or knowledge is revealed to individuals through dreams and private visits to such locations.

A storied rock is a “permanent feature that modifies and becomes integrated with the natural surroundings.” It is a landmark, a place that draws people and is remembered by people regardless of its original intent (Stoffle, Zedeño, and Halmo 2001: 122).

A central assumption of *Tumpituxwinap* interpretation is that the place was powerful prior to the appearance of the peckings (Stoffle et. al. 2001: 72). Since powerful places attract powerful elements, one accounts not only for the storied rock itself, but also for the environment in which it is found. Like humans, the elements that comprise the universe have individual personalities, dispositions, and characters; also like humans, elements are attracted to and negotiate relationships with each other. Many such “powerful elements” are found in proximity to the *Tumpituxwinap* at Stuart Ranch. The reliability of the water in this area, for one, is extremely important as water is often identified with storied rocks. Puha is strongly attracted to water, the “most vital component of life in the western deserts.” Water is not only sacred, but a purifying agent; it determines the “location and movement of human life” (Miller 1983: 78) and is “spoken of as being like the human breath” (Whiting 1950: 40). While puha follows the flow of water quite closely, the two are not identical. Jay Miller describes this difference in the assertion that puha “can manifest itself by producing a spring in a previously dry location” (1983: 79).

Plants form another powerful element found at the Stuart Ranch. The presence of medicine plants near *Tumpituxwinap* is a “sign that the place has power” (Stoffle, Zedeño, and Halmo 2001: 70). Because all elements of the universe possess unique dispositions, it is important for one to establish strong relationships with them. For instance, before picking a powerful plant, one would explain the reasons for doing so. Along much the same line of thought, the question of why such a powerful plant would grow near a storied rock, sometimes in the face of the rock itself, is a valid and important point of analysis. Some medicinal plants found at Stuart Ranch include greasewood, whose tough branches were used as digging sticks, arrow foreshafts, and cradleboard and basket edges in addition to its use as a medicine; and mesquite, whose sap was soaked in water to make a medicinal eyewash (Rhode 2002). Indian tobacco and datura were also found at Stuart Ranch, and are two of the four “original medicines given to Indian people”; both are considered to be extremely powerful and are “tended and gathered with care” (Rhode 2002: 124).

Native American consultants also spotted a series of cylindrical holes located near the *Tumpituxwinap*. These holes are similar to those used by Southern Paiutes to leave ceremonial offerings. People will bring offerings to a powerful place because “rituals accompany all changes in relations between humans and elements of the universe in order to maintain balance” (Stoffle Zedeño, and Halmo 2002: 13).

While Native American consultants felt that the estimated sixty panels of *Tumpituxwinap* of European travelers and wagons found along the wash would have represented events of the time, there were also other reasons for the particular placement of these figures. The storied rocks served as a warning to both Indians and non-Indians within the area. “The Indian people

put in new kinds of peckings of cowboys and wagons in response to what was happening,” one consultant noted. “They put these up there because this was a kind of historical event to them. Maybe [as a] kind of warning to other people.”

The representation of mountain sheep surrounding the peckings of European travelers was also an important factor in the interpretation of the panels. Mountain sheep, *naxa*, are considered to be very powerful Shaman animal helpers; along with deer, they are thought to be good helpers because they are “always benevolent, never malignant like the carnivores” (Laird 1976: 33). Mountain sheep helpers are unique in that they must be summoned; mountain sheep songs “traversed no earthly hunting grounds” (Laird 1976: 33), unlike “hereditary songs,” which are linked to a particular place. The placement of the mountain sheep, that they surrounded the European figures, was a way to channel the power of the mountain sheep to protect the area or warn away further travelers.

4.8 PAH HU WICHI (FROM BIG SPRING RUNNING DOWN)

Pah hu wichi (From Big Spring Running Down) is the Big Spring Complex of the central Las Vegas valley. The Big Spring Complex involves three major springs that were used traditionally, aboriginally, and historically by Southern Paiute people. The Big Spring Complex is understood in this study as a part of a place that is much larger than its major spring components; that is, a place containing the three springs, the intervening spaces that divide and immediately surround them, and the resulting river that flowed into the Colorado River (see Map 4.7). The concept of the Big Spring Complex is one used by Indian people today, but in normal conversation they refer to it as “where our traditional Las Vegas springs are.”

Pah hu wichi is culturally central in the history, contemporary lives, and future of all Southern Paiute people, because it is the major spiritual and physical cross-roads of their culture and society. Traditionally rain and snow fell on the high mountains surrounding the Las Vegas valley from whence it flowed on the surface and subsurface to emerge in a series of very large artesian springs. These springs created massive wet areas which the Spanish and later travelers termed Las Vegas (the Meadows). From these wet areas a large stream or river flowed to the Colorado River. Together they constituted one of the largest spring and riverine oasis systems in the region. Most trails, spiritual and physical, lead into and out of Pah hu wichi. Traditionally, Indian irrigated farms and rancheria settlements dotted both the river and the springs making it one of the central living areas in Southern Paiute territory.

Geology and Ecology

Southern Paiute people lived in this Las Vegas valley when it was full of many large and small artesian springs. The photograph of the artesian spring at Ash Meadows was used on the cover of the *Pah hu wichi* report because Indian people interviewed during that study perceive that Ash Meadows today is comparable to traditional artesian springs in the Las Vegas valley. According to Bell (1981: 7):

The hydrologic system in the Las Vegas Basin is characterized by artesian, intra basin flow. As much as 25,000-35,000 acre-feet of water probably enters the system in the recharge area of the Spring and Sheep Mountains. Once the water enters the flow system, movement is downward in the recharge area, horizontal in the basin-margin areas, and upwards in the central part of the basin. As water moves laterally into the basin sediments, it is confined or partially confined beneath poorly permeable and impermeable horizons. Movement under such conditions result in an artesian head or an upward seepage pressure in excess of the hydrostatic head.



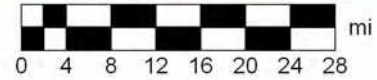
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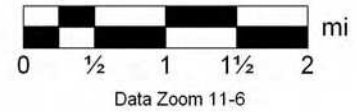


Data Zoom 8-0

Map 4.7 The Las Vegas Valley and Surrounding Area



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Map 4.8 A Close-up of the Pah hu Wichi Area



Figure 4.46: Corn Creek Spring in mid-1900s (Mehring 1967)



Figure 4.47: Ash Meadow Spring Today, Similar to, but Much Smaller than Big Spring

Pah hu wichi area was the center of this water system that contained many artesian springs, which produced a variety of braided streams that combined to produce the Las Vegas River. The term Las Vegas River is not commonly used today; perhaps this is because its flow was quickly reduced by European water diversions. Nonetheless, one of the springs alone produced seven cubic feet a second in 1899 and this was a river (as these are defined in this arid region) miles away from its origin and before it joined with the streams of other springs in the area (Bell 1981:22).



Figure 4.48 Historic Photograph of Pah Hu Wichi

Europeans diverted the flow of these springs and portions of the Las Vegas River beginning with the establishment of the Mormon Fort in 1855 (Jensen 1926). In a survey map, John Steele, one of the Mormon settlers, depicted the progress of Las Vegas Creek, which flowed past the site of the new fort downstream through a “tooly grass” area that was two and one-half miles long and one-half mile wide, and then flowed on to the Colorado River (Paher 1970).

Ecology

Prior to the diversion of the spring flow and the development of the city of Las Vegas, the Big Spring Complex was surrounded by the Mojave Desertscrub biotic community. This community is located between 2000, and 4000 feet above sea level and contains large populations of creosote (*Larrea tridentate*), barrel cactus (*Ferocactus* spp.), and Joshua trees (*Yucca brevifolia*). It is also known for being a very dry environment. In the midst of this arid landscape was the Big Spring Complex, which was a large riparian ecosystem. Riparian ecosystems are characterized by having a high diversity of both plant and wildlife species. The presence of a large volume of water

allows for the establishment and growth of many plant species that are not found in adjacent, drier areas (Briggs 1996; Brown 1994; Tingley et al 2001).

The Pah hu wichi study contained a number of questions about plants and animals as these occurred at each of three locations involved in the study. The scientific names and technical descriptions of the sites were provided by Dr. Eisenberg, who is a professional ethnobotanist. Thus it is possible to provide a more complete understanding of these species as they occur today in these sites.

Stone Mortar Site

This mesa-like plateau is situated in North Las Vegas, just east of the North Las Vegas Community Golf Course. It is on Losee Road, approximately one mile from the Kiel Ranch, and it extends for 20 acres. The area is surrounded by urban development, and a considerable amount of trash dumping occurs at this site. This site is a dry, sparsely vegetated and exposed rocky outcrop, rising approximately 20-30 feet above the immediate area. It is estimated to be 2,000 feet above sea level, and is composed of caliche, a sedimentary bedrock, and has a well preserved mesquite grinding area on the northeast corner of the plateau. The soils are a light colored alluvium with coarse rock fragments. Boulders create microhabitat for wildlife and plant communities.



Figure 4.49: Stone Mortar Site

Flora

A black tarry crustose lichen grows on the boulders and rock fragments throughout this locality. The glandular and delicate five-needle fetid marigold

(*Thymophylla pentachaeta*), provides a yellow tinge against the chalky colored terrain. creosote bush (*Larrea tridentata*), four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), and turpentine bush (*Thamnosia Montana*) are some of the desert shrubs which characterize this disturbed ecosystem. desert globemallow (*Sphaeralcea ambigua*), plantain (*Plantago insularis*), woolly plantain (*Plantago patagonica*), sacred datura (*Datura meteloides*), and white bursage (*Ambrosia dumosa*), add texture and diversity to the wind swept landscape. Indian gum bush (*Stephanomeria spinosa*), with its photosynthetic green stems, tumbleweed (*Salsola tragus*), desert pepperweed (*Lepidium lasiocarpum*), and purple flowered *Phacelia* with its scorpioid inflorescence, are scattered across the table-like rugged surface.

At the base of this landform are honey mesquite (*Prosopis glandulosa*), with the parasitic mistletoe (*Phoradendron californicum*), Indian tea (*Ephedra nevadensis*), tumble mustard (*Sisymbrium irio*), and silverleaf nightshade (*Solanum eleagnifolium*).

Fauna

Wildlife occurring at the site include cottontail, burrowing owl, mockingbirds, sparrows, doves, and black widow spiders.



Figure 4.50: Elder Talking About Pah Hu Wichi Landscapes at Stone Mortar Site

Kiel Ranch

Kiel Ranch is located on the north side of Carey Avenue between Commerce Street, and west of Losee Road in North Las Vegas, Clark County, Nevada. It is a 12.21 acre site which is situated approximately 1.5 miles north of the Las Vegas Ranch, and is

classified as an unimproved historic site. The area is at an elevation of 1980 feet in the Mojave Desert, with slopes ranging from one to four percent (Hohmann 1997). The region is composed of alluvial soils, which were formed of eroded materials from the surrounding mountains encircling the Las Vegas Valley. The local soil type is a gravelly, loamy fine sand, which displays a well developed desert pavement (Hohmann 1997).

Flora

Various processes of land clearing have impacted the original vegetation and riparian ecosystem of the site. Creosote bush (*Larrea tridentata*), four-wing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), Indian spinach (*Stanleya pinnata*), several species of tansy mustard (*Descurainia cryptantha*), tumble mustard (*Sisymbrium altissimum*), desert globemallow (*Sphaeralcea ambigua*), sacred datura (*Datura meteloides*), and fiddleneck (*Amsinckia tessellata*) are found in the central portion of the property. White bursage (*Ambrosia dumosa*), tumbleweed (*Salsola tragus*), heliotrope (*Heliotropium curassavicum*), groundsel (*Senecio*), goosefoot (*Chenopodium*), and spurge (*Euphorbia*), are well established along the peripheral areas of the grounds.



Figure 4.51: Water and Ecology at Kiel Ranch

The retention pond supports a riparian community of plant life such as cattail (*Typha*), arrow weed (*Pluchea sericea*), Goodding willow (*Salix gooddingii*), coyote willow (*Salix exigua*), and Fremont cottonwood (*Populus fremontii*), which provide shade for the lush and vigorous wetlands ecosystem around the natural spring. Dodder (*Cuscuta*), the twining, leafless parasitic plant climbs upon its host as an orange stringy mass. Honey mesquite (*Prosopis glandulosa*), screwbean mesquite (*Prosopis pubescens*) and catclaw (*Acacia greggii*), contribute structural diversity to the tract of land. mistletoe (*Phoradendron californicum*) parasitizes mesquite, and produces mucilaginous berries

that are relished by many species of birds. Wild grape (*Vitis arizonica*), the woody native climbs by its tendrils, upon the trees and shrubs along the edge of the pond.

Fauna

Wildlife in the area includes cottontail, small rodents, several species of reptiles, as well as numerous birds such as roadrunners, quails, sparrows and ducks. Although Kiel Ranch is a disturbed site, the environment is relatively diverse with biotic and abiotic elements that sustain life.

Big Spring

The Las Vegas Valley Water District's North Well Field is located in the heart of metropolitan Las Vegas. Today, this diverse "island" ecosystem is surrounded by urbanization. There is no surface water flow from Big Spring because of extensive pumping, which has dewatered it by more than 100 feet. Although the springs are dry, this site continues to provide rich and viable habitat for plants and wildlife. There are plans to recharge and restore the riparian communities, to create a life supporting environment for reptiles, amphibians, mammals, migratory birds and plant life (Las Vegas Valley Water District 1998).

Three large reservoirs, two pump stations and numerous wells are located on the property, which is enclosed by a chain link fence. The 180-acre site is bordered by Valley View Boulevard to the west, and Alta Drive to the south, and extends from West Charleston Boulevard to U.S. 95. Big Spring, which is the headwaters of Las Vegas Creek, is on the northern part of the grounds adjacent to the freeway, U.S. 95 (Las Vegas Valley Water District 1998).

The site is relatively flat in profile with a 3 percent slope toward the southeast. On the northern portion of the grounds, historic creek beds collect storm water, which drains toward the historic creek channels (Las Vegas Valley Water District, 1998). Sand and silt sized fine-grained material containing small amounts of clay, characterize the surficial deposits in the North Well Field. Significant soil organic matter is evident in the cottonwood riparian corridor on the northern part of the property. Subsurface deposits from the Red Rock Alluvial Fan, with caliche represent the substrate within the complex. Several faults traverse the area, and land subsidences due to ground water withdrawal continue to occur. Since the 1950's, subsidence on the site is approximately one to two inches per year, and faults cause fissuring which are small tension cracks in alluvial sediments above the water table. Fissures expand as a result of the erosive action of runoff, and several abandoned wells exhibiting localized subsidence are in the northern part of the property (Las Vegas Valley Water District 1998).

Flora

The site provides habitat for native plants and plant communities, which are rarely encountered in the Las Vegas Valley. Fremont cottonwood (*Populus fremontii*),

several species of willow (*Salix* spp.), and mesquite (*Prosopis* spp.), contribute to the structural diversity of the area. Native Mojave Desert plants such as screwbean mesquite (*Prosopis pubescens*), honey mesquite (*Prosopis glandulosa*), Mojave yucca (*Yucca schidigera*), Indian spinach (*Stanleya pinnata*), creosote bush (*Larrea tridentata*), various species of saltbush (*Atriplex* spp.), arrow weed (*Pluchea sericea*), white bursage (*Ambrosia dumosa*), and desert globemallow (*Sphaeralcea ambigua*), grow on the property. Mistletoe (*Phoradendron californicum*) parasitizes mesquite, and produces coral pink fruits, which are eaten by phainopeplas and other birds. Indian tea (*Ephedra nevadensis*), five-needle fetid marigold (*Thymophylla pentachaeta*), and sacred datura (*Datura meteloides*), display color and texture to the landscape. The towering *Populus fremontii* and *Salix* spp. indicate the underground presence of water, marking the course of the springs, which were once surface flowing.



Figure 4.52 Indian Ladies Talking About Plants in Pah Hu Wichi

Fauna

The large trees of the riparian ecosystem provide nesting, roosting and foraging opportunities for wildlife. A well-developed litter of organic matter offers cover for amphibians, reptiles, small mammals and insects. Fauna such as grey fox, kit fox, coyote and white-tailed antelope squirrel inhabit the North Well Field. Numerous birds such as red-tailed hawk, mockingbirds, American kestrels, quail, poorwill, northern flicker, greater roadrunner, kilddeer, burrowing owl, cuckoos and loggerhead shrike occupy the Big Spring environment (Las Vegas Valley Water District 1998).

Summary of Interviews

American Indian interviews were conducted in Pah hu wichi as a part of an Environmental Impact Assessment of a Highway 95 expansion that would potentially damage one of the major traditional springs (called Big Spring) (Stoffle et al. 1998).

Interviews were conducted in 1998 using three data collection instruments. Questions on those instruments closely match ones used in the current OST study.

Findings from the American Indian interviews were submitted for review and approval by the participating tribal government. Once that process was completed the report was made a part of the assessment process and final Record of Decision. The spring was spared destruction and has been under environmental and cultural restoration since then. The Nevada Senate Transportation Committee, in 1999, approved a bill to allow the issuance of special motor vehicle license plates with the money going to preserve the Big Spring Archaeological District. The state bill was argued with the idea that Big Spring has been called the "*Birthplace of Las Vegas,*" and was visited as long ago as 6000 B.C. by Indian tribes. Travelers on the Spanish and Mormon trails made stops at the springs" (Manning and Koch 1999). Thus this and other Pah hu wichi springs have become recognized as important places in local, state, and national heritage preservation.

Southern Paiute Tribe	Male	Female	Total
Kaibab Paiute Tribe	0	3	3
Paiute Indian Tribe of Utah	3	3	6
Moapa	3	0	3
Las Vegas Indian Center	3	0	3
Pahrump	3	6	9
Colorado River Indian Tribes	3	3	6
Chemehuevi	6	0	6
Total	21	15	36

Table 4.12 Interviews at PaH Hu Wichi

Native American Comments

The following American Indian responses occurred during the 1998 study. These responses have been selected because they are most relevant to the purpose of the current OST study. The discussion of connecting trails and their uses are especially interesting for understanding where the OST was established and its impacts.

Some responses were not used because they referenced uses and activities from later time periods, like when the Las Vegas Paiutes became ranch hands during the late 1800s and early 1900s. The responses have been edited to remove duplicate ideas and thoughts not relevant to the question.

Traditional Uses of Pah hu wichi

When asked "Were there Indian villages in this area; and if yes, were they connected?" Indian people responded:

- *Yes. Bands are related in the area and came together for trade, food, and ceremonies, like death ceremonies.*

- *Yes. They are connected because people came from the mountain. They came here and we went through. My dad's uncle came from here and we lived in Moapa. It is like we all came out of one place.*
- *Yes. Underground water sources, all are interconnected. This area connected with Tule Springs area. The Las Vegas people lived everywhere. Gypsum Cave and Sheep Mountains are connected. South end of valley, a place on the way to Pahrump where Las Vegas people lived. All water is interconnected with one another. Elders always talked about not playing by springs. They said do not fall in springs or you'll go to another area. Springs have Water Babies.*
- *Yes. There are a variety of sites related to this such as some up north of here by Tule Springs and Sunrise Mountain, Potosi, and Good Springs. In many ways they are connected culturally, through stories and songs, and through underground water system, and the trails and songs about these water sources, and because we are all the same people.*
- *Yes. This is kinda like a base camp for living and manufacturing food items. All villages in the area came here. We feel like this place was important for the processing of mesquite beans. Women mostly would come back and forth to here. High places were for enjoyment, for looking around.*
- *Yes. Indian people lived close to the springs for water and at foot of mountains; they hunted animals such as mountain sheep, antelope; some of these animals are still left. People here still know of these places; Indian people were connected throughout this area by kinship.*

When asked “What did Indian people do here?” Indian people responded:

	Male	Female	Total
Gathering plants	8	3	11
Ceremonies	8	3	11
Farming	6	2	8
Gambling	5	3	8
Political meetings	6	0	6

Table 4.13 Types of Activities by Gender

- *Yes. No doubt they farmed, got water, medicine, doctoring spots, can talk to the weather, the wind comes and it talks to you about how to prepare for the area. Songs sung here, places of power here, which helped to get medicine. Came up on high hills like this to talk to nature. Springs are central places.*

Pah hu wichi Site Features

When asked “What resources would Indian people traditionally use at this site?” Indian people answered:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	X		<ul style="list-style-type: none"> • Anywhere you found water, you found people. • They used water for a lot of things. Water is a very powerful medicine, sacred, it has power. If anything doesn't have water, it would die. If you don't feel good they would sprinkle it as a blessing. You also give mother earth the water. • We cook with water, drink it and bathe with it, used for mixing and diluting medicine used to sprinkle in ceremonies.
Was this site a source for plants?	X		<ul style="list-style-type: none"> • They would make baskets if you find straight pieces of squawbush [use stems]. . . Medicine—chaparral and greasewood. I talk to it, boil it and run into a strainer, then put it in a bottle. It's good for kidneys, bones, and skin. But you need to talk to it and ask for help. • Willows used to make powwow shade and baskets
Was this site a source for animals?	X		<ul style="list-style-type: none"> • Deer, antelope, rabbits, chipmunk, lizards, gila monsters, mesquite turtle, salt song, funeral ceremony (done with coyote), prayer for purification of water and for farming. • Antelope skins were used for shoes and blankets. Bones were used to scrape off skins. Chuckwalla were used for medicine [general medicine]. In the legend he's one of the strongest animals in the desert.
Was there evidence of previous Indian use at this site?	X		<ul style="list-style-type: none"> • There is evidence of grinding mortars for mesquite seeds, beans. . . this site was also used for gardening, planting corn, beans, and squash. It was also used for ceremonial purposes. For example, when a person dies, after one year there is a powwow (not like the “earring selling” powwows of today). . . here there are also beads and arrowheads. • Old fire places, camping places, lithic scatter, pottery, arrowheads, grinding stones, old spears, atlatls, Indian ceremonial paints, buckskin. . . Would burn materials of the person behind the home of the person, away from the body, so there might be funeral beads here.
Did Indian people use the geological features at this site?	X		<ul style="list-style-type: none"> • I imagine this was a center for most mesquite pounding. They would teach the young because they would not know how to process the beans. • Rocks can be used for healing power; they have their own power. Round ones can be used for sweat. • At Sunrise Mountain (meaning “woman laying down”) there is a cave, although now it is destroyed. . . you could become a medicine man in there, but this stopped in the '50s.

Table 4.14 Pah Hu Wichi Site Features

- *Yes. Farming activities, plants for food and medicine, ceremonies revolving around the water, prayers said by people, we have always lived around this area, gambling includes hand games, and meetings were for regional chiefs to get together. Cottonwood is very important to us, the root of which is used in ceremonies and figurines are made from it.*
- *Yes. This is a very spiritual place. The mountains to the east are also important [name unsure, but sure that they had a song]. Passing on knowledge occurred on the sacred mountain. The Great Spirit created this world and put these sacred places here for the Paiute to be shared with all Paiute. These places should not be bothered. The Almighty put this place here not to be sold; it belongs to the Indian people. The Indian knows this, but sometimes they have a hard time saying these things to other people.*

When asked, “Were there Indian villages in this area and if so how were these connected?”
Indian people responded:

- *Yes. Bands are related in the area and came together for trade, food, and ceremonies, like death ceremonies.*
- *Yes. They are connected because people came from the mountain. They came here and we went through. My dad's uncle came from here and we lived in Moapa. It is like we all came out of one place.*
- *Yes. Underground water sources; all are interconnected. This area connected with Tule Springs area. The Las Vegas people lived everywhere, Gypsum Cave and Sheep Mountains connected. South end of valley, is a place on the way to Pahrump where LV people lived. All water is interconnected with one another. Elders always talked about not playing by springs, do not fall in springs or you'll go to another area. Springs have Water Babies.*
- *Yes. There are a variety of sites related to this such as some up north of here by Tule Springs, Sunrise Mountain, Potosi, and Good Springs. In many ways they are connected culturally, through stories and songs, and through underground water system, and the trails and songs about these water sources, and because we are all the same people.*
- *Yes. This is kinda like a base camp for living and manufacturing food items. All villages in the area came here. We feel like this place was important for the processing of mesquite beans. Women mostly would come back and forth to here. High places were for enjoyment, for looking around.*
- *Yes. Indian people lived close to the springs for water and at foot of mountains; they hunted animals such as mountain sheep, antelope; some of these animals are still left. People here still know of these places; Indian people were connected throughout this area by kinship.*

- *Don't Know. Not sure, but probably. There were Indian allotments at each spring, they were probably all related to each other, and gave them a chance to get out and meet one another, and that's how we sing some of our songs, we get together once or twice a year.*
- *Yes. Indians used to travel to collect food, water and at certain times of the year seeds as well. We have baskets, pottery, dry seeds and grind them to re-cook during the winter time. Also in the fall we prepare food. We also dry animals...my kids like it (meat) cooked the old way. Paiute means water - we belong to the water. We were known for living near the water, spring to spring. They would travel on foot. This place has food, medicine, grinders, not only for the mesquite, but also for meat and water. Probably there was a home around here that would enable them to see the whole area. If I was here I would have gone there to the mountains [Sunrise Mountains] to get deer.*
- *Yes. They were all family intermarried.*
- *Yes. Indian Springs [Air Force Base], Cactus Springs, Corn Springs, Tule Springs, Kiel Ranch, Lorenzi Park, Big Spring; others to the northwest such as Bonnie Springs and those at Red Rock. Many of these springs are connected to or associated with the Spanish Trail. From the summit of Mountain Springs to Big Spring is about 65 miles.*
- *Yes. Through inter-social relationships. Clans would come together to intermarry and trade goods.*

When asked "Do you know of trails that were connected with this area and can you tell me something about those trails?" Indian people responded:

- *Yes. These trails went north, east, west, south. They were used to go to places like Pintwater Cave for ceremonies; used to visit relatives, for gathering food, and they came here to prepare for events. Like the wind now, it feels good. Oh yes, these kind of trails are well traveled. They connect to the Utah people. They traded with each other. When they traveled the trails, they would sing; they always had a central purpose to what they did, they had a central mission. Would talk for 2 or 3 days about travel; when the special day came they would say, this is the day, and then they would go.*
- *Yes. Where did they go? - Indians knew where animals went (animal trail) but also had an Indian Trail also called the "long walk" (ningwebo). They would go visit sick people and also hunting. They used to say "I'm gonna see my relative." Family relationships are important as connections between places. They know if there is water, that's the only way they could go. They knew the distances. These trails were special to the Paiutes people, also for all other Indians.*
- *Yes. Used for gathering plants, seeds. Trails were not only used to reach specific locations, but also as routes through resource rich areas. Resources were gathered en route, such as mesquite.*

- *Don't Know. I'm assuming that maybe they ran north and south and traveled northwest to Bishop for ceremonial purposes, a gathering of the clans or socializing. They left their markings like petroglyphs, a message to other people.*
- *Yes. Chemehuevis don't like to mix their spiritual life with their ordinary life. I imagine there were trails between the water and the other springs. These small colonies depended on each other. They used trails to communicate with one another. They had runners and that's all they did, run out across the desert.*
- *Yes. We need them for our afterlife, without them it would impede that process. Paiutes have a whole variety of songs, Parker, Chemehuevi, circle around through Pahrump. Salt Songs, Bird Songs, and the stones talk of our afterlife and our journey. Trails are used in our daily lives in our ceremonies and prayers. It is like taking part of you away, because that is how we all became related. To take it [the spring] away is like severing a tie.*
- *Yes. From Sheep Mountain to Alamo. Trail to Cactus Springs to Indian Springs. U.S. 95 may also correspond with an Indian trail. Trails were highly significant for rest and subsistence. Immigrant trails came through here, such as the Spanish trail from Santa Fe to Las Vegas to Los Angeles.*
- *Yes. Know of trails near Yucca Mountain, which were used for traveling.*
- *Yes. The springs are always places of importance connected by trails. Petroglyphs would be connected to springs by trails. Trails connect to medicine gathering and healing areas. We need these trails for our afterlife; songs sung during menstrual services. Trails were key in winter stories. Older men would tell boys stories; need stories to find your way; find where you are supposed to be, where your umbilical cord is buried.*
- *Yes. From here to Mt. Charleston for pine nuts; have one from Moapa to Sheep Mountains; used to be another one to Mount Charleston, also one from here to Moapa, Pahrump, and surrounding Indian communities. All trails are special because they are there for a reason -- to take you someplace, not just to wander around. Used to gather, to hunt, for visitation; a lot of people from the Las Vegas Valley are related to surrounding tribes.*

When asked "Do you know of any songs associated with this area and were they ceremonial, traveling or other types of songs?" Indian people responded:

- *Yes. Salt songs, circle dance songs [eagles, mountains, old lady mountain], pine nut songs.*
- *Yes. This area is close to a cave where you can learn songs, so it must be related to the songs. This cave shows you how to have medicine power. If someone was sick, it would show you how to heal them.*
- *Yes. Bird songs, salt songs, creation stories and songs.*

- *Yes. Salt songs are specific to Big Spring area, the Las Vegas Area. Water and Water Babies supernatural force can be taken in. Songs are related to certain people, like winter stories and songs.*
- *Yes. There were hunting songs, deer and sheep songs. They would wait here. This one spring was a beginning place for songs. Songs have specific times, morning songs and evening songs. They are not just given to anyone, but to special people. Wise people like [a woman's name is removed here] would be given a song. These are people who have deep knowing about what is to be done. Indian people live by their deep knowing, spiritual knowledge. Also had healing songs, which could be sung here, a shaman could sing them here. Using elements like rain, wind, clouds, they all work together like harmony; it's a binding force. When my grandpa came this way he would go into those mountains, he would get his healing powers there. He had a staff that turned into a rattlesnake once. He would talk to wind; it is hard to explain.*
- *Yes. Salt songs, bird songs, circle songs, war songs, pow-wow songs.*
- *Yes. There used to be songs of mountain goats and sheep and deer, used to go around this area. They were all traveling songs, lots of bird songs--the bird song is about a bunch of birds came up the river and where ever they stayed, that's how they would get there. That's what it tells, the hardships of the birds on the snow capped mountain trying to find their way home. Oh, and there's the Friendship dance and the circle dance, the bird dance and song.*
- *Yes. Traveling songs - They sing in the morning. They mean they want to travel and want the water to bless them and take them where they're going. They never go back because the water takes you to that place. Sometimes they sprinkle it on their faces or on the head. They sing various songs. I know one song that means "I'm going around clockwise," like the water.*
- *Yes. There might have been traveling songs or ceremonial songs. Most songs tell a story.*
- *Yes. Salt ceremonial song, mountain sheep song go outside of area to south and west.*

When asked "If you know of any ceremonies that were conducted in this area and can you tell me something about those ceremonies?" Indian people responded:

- *Yes. Death ceremony: conducted three nights from sunup to sundown in order to help deceased's spirit to heaven. Conducted near water.*
- *Yes. Ceremonies involved large numbers of people; people from different Paiute groups would come. Funerals - his dad told him about coming over here by wagon. My wife's folks would come down from Shivwits; it would take 2 days to get here, 3 days singing for the person, 2 days back to Utah. Political - The Paiute way is to help one another, so if a family needed help the rest of the family would come in and help them.*

- *Yes. Main life ceremonies occurred in the area, but people would move these away from the springs. Like funerals. Funerals would not be held near major springs. They would, however, take water from springs to give to dead person so they'll have a smooth journey to the afterlife.*
- *Yes. Sometimes you travel long distances to get to certain plants. In winter people receive songs and so they have prepare for that. Water can be taken away from that area and used elsewhere. Respect is given to the stories and beliefs.*
- *Yes. Grandpa came here often from near Blythe, CA. He and my relatives would come up here and he would go into the mountains for healing power. He healed people here; he healed everybody.*
- *Yes. Not sure about the ceremonies that occurred here, but am sure that they must have been similar.*
- *Yes. They had to be thankful to the mesquite both for food and for allowing them to make beds. At Kiel Ranch they might have had sacred pow-wows and doctors would be singing one, two or usually three nights. This was for curing purposes. One time I went with my grandmother. The doctor at Kaibab said the lady from the mountain is coming this way. I couldn't see any lady... but that was a spirit.... The spiritual lady was coming from the Kaibab mountains (Kaibab means "mountain laying down") They gave her juices from the chaparral or greasewood. This was when I was six. Another time I went to Moapa to see a doctor. When I was a kid we used to travel from Moapa to the Indian Camp and to Pahrump. Sometimes they had doctor ceremonies. They had lots of Indian doctors both men and women.*

When asked "Is this area at or near the place where Paiutes were Created and where is the Creation place?" Indian people responded:

- *Yes, it is close; somewhere on Mount Charleston.*
- *Yes. Big Place - Nuvagantu or Mt. Charleston Peak [Nuvagantu is the Nuwuvi name for Charleston Peak. It is sometimes translated as "where snow (nuva) sits (gantu)"]. The whole Spring Mountain range is a woman lying down. All of that is a part of where we were created. Wolf and Coyote lived there and they came down to these springs.*
- *Yes. Within the area or region, Mt Charleston or Nuvagantu for us, is where everything started. What animals were related to those people and area. The place has all the resources you need, a very special place.*
- *Yes. On top of Mt. Charleston, that is where we came from. Snow up there.*
- *Yes. In this area; in Paiute territory; different tribes have different creation places and their own ways.*

- *Yes. To the Chemehuevis, that's where it all started there. That's the spirit mountain, Nuvagantu.*
- *Yes. They had an Indian name, but I don't know it. Creation place - Santa Clara (Utah) is another place where Northern Utes (they used to call us that way) were created. Then we came down this way and they call us Southern Paiutes.*
- *Yes. The whole area, everything you see here. Pintwater Cave, all this area. That's the most sacred area for the Paiute. At the time, years and years ago, there used to be a lake. That area there was a gathering place for ceremonial purposes, and for wild rice and sheep. To me I'm very grateful this place has been preserved so long even though some of the artifacts have been destroyed. People can come up here and have ceremonial gatherings, but once you let the public in everything starts to disappear.*
- *Yes. Mt. Charleston.*

Trail Impacts

The Pah hu wichi study was focused on the potential impacts of widening Highway 95, which earlier in this text was identified as being built on an Indian trail, so no direct interviews occurred on the OST impacts. Nonetheless, there were a number of responses discussing the impacts of the Mormons and other travelers after 1850 and these are useful for comparison.

When asked “Do you recall events in Paiute history that occurred at or near this area, and will you tell me about those events?” Indian people responded:

- *Yes. Killing of Paiutes by Mormons and early settlers; often occurred near springs as these were places Paiutes lived.*
- *Yes. 1910-1920, from here to Moapa. My dad used to talk about when his uncle lived over here and how they moved him to Moapa about when Las Vegas became a colony. They got the land from Helen Stewart. The village was already there when Stewart gave it to them. Colony also had its own spring at their village site.*
- *Yes. 1800's, farming activities. Outsiders farming activities occurred in our areas and our leaders come to meetings to represent these places. Interactions with Mormons when they were coming through. Medicines to were given to travelers, but we're not given credit for what we are.*
- *Yes. Mormons came in 1855; late 1800's trappers came, and hunters. Then they dug in and made their own roots. Trapped for cash. Native peoples did not trap, but told the trappers where to go. Then a lot of animals disappeared. Trappers led the way for losing the land. Certain rights were taken away, even though the rights were taken away, I still feel the Indians have rights; it is part of their stewardship of the land. Indians would go away and still have a crisis and then they needed to find their place. If you go back to the tribes they can still be of use to the tribes as stewards of the land. Everyone has their*

place, and for Paiute people, this is theirs. Indian people have a character that is taught; this is how they are made. The environment has its own way and the Indian people bend their will to match. When this gets out of balance, the environment wins. Environment is blind to humans; it just carries on.

- *Yes. Whites came and took land away from Indian people.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of the ethnographic comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

This ethnographic comments section is focused on traditional Southern Paiute ownership of the Las Vegas valley and it was impacted by non-Indian encroachment starting in 1776 through the American period. The brief historic accounts provide eyewitness information about a largely independent Southern Paiute people under threat from human and animal encroachment.

The historic period begins when Euro-Americans begin to record the culture of the Indian people. For Southern Paiutes it technically began in 1776 when Fathers Escalante and Dominguez traveled through the upper portion of Southern Paiute territory and wrote about their culture. The same year, Father Garces traveled north from Mohave territory into Chemehuevi Paiute lands and arrived in Las Vegas on February 26th where he interviewed approximately 40 persons. After this time, Las Vegas was visited repeatedly by illegal trading expeditions from Santa Fe to California. Stewart (1969) observes that in the early 1800s the first Anglo Americans to enter the lower Colorado River area were traveling illicitly without passports from Mexico.

During the Mexican period, after independence from Spain in 1821, the new government loosened trade relationships with both the U.S. and California and the OST was officially opened in 1829 for trade in both directions. Soon, travelers of all nationalities were using the trail, including American Indians from various ethnic groups.

It may be useful at this point in the discussion to describe the relationship between Southern Paiutes and Euro-American invaders as seen through the 1855 diaries of the Latter Day Saints (LDS) missionaries to the Las Vegas valley and the Colorado River. These diaries provide eyewitness accounts that are useful for understanding who owned the land, the response of Paiute people to Euro-Americans coming into aboriginal lands, and the cultural significance of the land at that time.

Ownership of Land

There was never any question in the minds of the LDS settlers in the Las Vegas spring area that the land in 1855 was still owned by the various Southern Paiute communities in the

region. In a letter to the *Deseret News* (Jensen 1926:146) dated “Las Vegas, July 10, 1855,” William Bringham wrote “Shortly after we arrived here, we assembled all the chiefs, and made an agreement (treaty) with them for permission to make a settlement on their lands.” It is interesting that the official LDS position was that they expected to eventually own all of the land and that the U.S. Federal government was the interloper. For this reason, the LDS mission leaders were making what they perceived as government-to-government treaties with the legal owners of the land.

Response to Encroachment by Euro-Americans

By 1855, when the LDS church decided to establish a settlement at the Las Vegas springs, the Southern Paiute people had been pushed away from the springs themselves, but were still farming on the Colorado River at this time. According to Jensen (1926: 140), who references an 1855 letter between two Mormon settlers during an exploring trip to the Colorado River which is about 28 miles from the springs where the fort was being constructed,

We found about 50 Indians (Piedes) on the Colorado, in a perfect state of nudity, except breechclouts; the men and women all dressed alike. They had raised a little wheat on a sandbank; it was all ripe and harvested. They were very friendly.

The exact location of this Paiute village is unknown, but was probably within about 31 miles of the fort. It can be assumed that the site was at or near the delta of the Las Vegas River as it joined the Colorado River.

The forced relocation of Southern Paiute people from the major springs in the Las Vegas valley was accomplished by hostile interactions with Euro-Americans and by disease episodes derived from European contact (Stoffle, Jones, and Dobyns 1995). The initial encroachment was during the Spanish and Mexican periods when herds of horses were moved from Santa Fe to California over what was to be called the Old Spanish Trail. Few records were produced or survived these early periods to describe the interactions between Paiutes and these Hispanic herder/traders. Given that Santa Fe and Abiquiu were places for the sale of Paiute people into slavery (Hafen and Hafen 1954:21, 261-262; John 1975, Poling-Kempes 1997), it can be assumed that relations were unfriendly and that Paiute reactions to both human and animal intrusion into Paiute farming oasis was hostile.

The U.S. citizens who began to move across Paiute lands from oasis to oasis soon brought even more adverse impacts to Paiute people and their oases. After the Treaty of Guadalupe Hidalgo in 1848 and the discovery of gold in what would become California in 1849, the travelers known as the ‘49ers streamed down the front range of the Wasatch Mountains, through Mountain Meadows at the headwaters of the Tonoquint (Santa Clara River), along the Rio Virgin to the Muddy River, to the Las Vegas springs, and thence south to one of a number of turnoffs across Paiute lands which would come to be called the Mohave Desert. One early ‘49er group (the Manly-Rogers party) left Mountain Meadow with a Paiute guide and struck out across southern Nevada toward Death Valley. This group would record the farthest west Paiute farm, which was at Cane Spring, a location now within the Nevada Test Site. This party recorded that they found an Indian farm where they saw a cornfield with the stalks remaining after the harvest

(Koenig 1984:86-93). Like others before and after them, they helped themselves to harvested fruits of the Paiute agricultural fields. In fact, the Manly-Rogers party stayed nine days devouring the winter's store of squash which they found there and fattening their oxen on the stubble in the cornfield (Lingenfelter 1986:42) and went on without apparent concern for the potential adverse impacts to the Paiute farmers and their family.

In the summer of 1855, when the LDS Las Vegas settlers were leaving Cedar City the recent behaviors of the Southern Paiutes were assessed by Elder Haight in a letter to LDS President Snow (Jensen 1926: 128-129), where he noted that some of the missionaries had experience living near Paiute people on the Rio Virgen (sic) and Santa Clara River. According to Haight, these LDS members had attempted to dissuade the Paiutes from fighting against the white men (Americans) who pass through their (Paiute) country, an action which the Paiutes had been accustomed to do. The hostile Indian response is attributed by Haight to the American pattern of shooting the Paiutes as they would shoot a wolf, so that now the Paiutes regarded every white man as their enemy.

Setting aside the LDS' own hostile behaviors towards the American travelers, it is reasonable to assume some hostile Paiute responses to both the presence and behavior of travelers. It was, after all, a period when the Paiutes were still in control of most traditional lands, even though the riverine ecosystems were rapidly being lost to travelers and settlers.

Cultural Significance of Land

Few of the Euro-American travelers and settlers had the interest in talking with the Paiute people about the cultural significance of the Las Vegas valley during these early encounters. One of the Las Vegas settlers, however, did just this and recorded the earliest account of the Las Vegas valley and the nearby mountains as sacred places. George Bean wrote a letter on December 11, 1855, which contained a number of cultural and linguistic observations which obviously reflect the thoughts of a person who was inquiring about Indian society and culture. He wrote (Jensen 1926:187-188):

The language of these Indians is somewhat different from the Utahs, though probably they have once been the same nation. These say that the Utahs and Pahvantes are branches of this nation, and if their traditions are true it must be the case, for they say that the two great brothers (Shenoub and Tewots) used to live on the mountain close by here. It was here they quarreled and Shenoub, or the devil, took advantage of his older brother, killed him and stole his wife, but after 24 hours, some say 3 days, Tewots came to life again and then commenced the great war which continued until they both left the country, but not until they had peopled this and the surrounding country. **There is hardly a mountain or canyon that is not revered by them upon some account or other (emphasis added).**

These brief historic accounts provide eyewitness information about a largely independent Southern Paiute people under threat from human and animal encroachment. The full story requires more space; however, a couple of points can be made. First, Southern Paiutes had farms

where there was water and the freedom to farm. They owned the land in the Las Vegas region and tried to hold it through direct physical confrontations when this was possible, and later through raids on travelers and settlers. Paiutes believe they were Created by the Supernatural in the Spring Mountains which define a boundary of the Las Vegas valley, making the area highly sacred.

4.9 COTTONWOOD SPRING

Cottonwood Spring is located near Mount Potosi at the southern end of the Spring Mountains. It is at an elevation of approximately 5,640 feet, and it is on the eastern side of the mountain range. The spring can be found in the town of Blue Diamond (see Map 4.9). This spring was the first major water source outside of the Las Vegas Valley when traveling along the OST to California and it was an important stop for travelers along the trail.

Geology and Ecology

Cottonwood Spring flows year round. It is located at the base of a large Aztec Sandstone escarpment. Water and snowmelt accumulate at higher elevations and permeate downward into and through the sandstone. The pore space between the sand grains allows water to penetrate to the Triassic Chinle Formation below. This formation is composed of shale and siltstone and has very little pore space between the grains. The impermeability of this layer causes the water to flow along the contact area between the sandstone and the Chinle formation until it encounters the surface and the spring is created (Tingley et al. 2001).



Figure 4.53 Cottonwood Spring

The spring is located in the Upper Sonoran life zone of the Mojave Desertscrub biome (Brown 1994, Tingley et al. 2001). The Upper Sonoran life zone is habitat for plants like creosote (*Larrea tridentate*), horsebrush (*Tetradymia spinosa*), and Shadscale (*Atriplex confertifolia*). The spring has created a riparian habitat amongst the lower elevation desert plants. Around the spring, there are numerous cottonwoods (*Populus* spp.), watercress (*Nasturtium* spp.), mesquite (*Prosopis* spp.), and velvet ash (*Fraxinus velutina*).



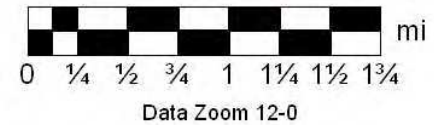
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Map 4.9 The Cottonwood and Mountain Springs Area

Summary of Interviews

On June 3, 2006, UofA Ethnographers interviewed Chemehuevi, Moapa, and Las Vegas representatives at this site. They conducted five interviews on the use and meaning of Cottonwood Spring and how it was impacted by movement along the OST. Table 4.15 details the breakdown of interviews by tribe and gender.

Southern Paiute Tribe	Male	Female	Total
Moapa	1	1	2
Las Vegas	1	0	1
Chemehuevi	1	1	2
Total	3	2	5

Table 4.15 Interviews at Cottonwood Spring

Native American Comments

Traditional Uses of Cottonwood Spring

When asked, “would Indian people have been attracted to this place as it existed traditionally and how would they have used it,” Indian people responded:

- *The Indian people always lived here...in the summer especially. They would have had gardens here and they would have gone pine nut picking in the mountains nearby. They would go out in the desert near the rock rings and use them for ceremony, like manhood ceremonies...spiritual, like vision questing. Rock rings are all over in the dry desert to the south, there are hundreds of them.*
- *This place was more a permanent settlement than a seasonal camp.*
- *Indian people were attracted to Cottonwood Spring because of the water. It is the gift of life. There are an abundance of plants and wild game. The spring is at the base of the Red Rock Canyon area and is an oasis of lush vegetation. Indian people would have gardens here. Other settlements in the area would be easily accessible to them.*
- *They had a community here. Everything is ideal for living, camping, ceremony, and gathering resources. Old trees still stand- a stream runs through the encampment. The Indians would channel the water and plant gardens. The Indians had seeds that they used for planting, gourds and for pollen usage. They knew horticulture. Up the road a ways there are petroglyphs. The mountain at its west side is a holy mountain.*
- *We are at the base of a Creation Mountain; this is part of our holy lands. It is a sanctuary- a paradise. It was a stopping place for many bands but it was owned by a chief, probably Richard Arnold's relative who was an influential chief.*

Cottonwood Spring Place Features:

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	5	0	<ul style="list-style-type: none"> • <i>Indian people used the springs at this site.</i> • <i>This is a very good spring and people would have used it.</i> • <i>The water from the spring was needed for their livelihood. It is very important along with the land and air.</i>
Was this site a source for plants?	5	0	<ul style="list-style-type: none"> • <i>Indian people used the cottonwood, willow, tamarisks, grasses, rabbit brush, sage, and the brittle brush.</i> • <i>People would have used the willow, mesquite, and the banana yucca.</i> • <i>Indian people used the watercress. The cottonwoods were used for medicine and the willows were used in basketry.</i> • <i>The Southern Paiutes used the desert plants. Willows were used for aspirin and in basket materials.</i>
Was this site a source for animals?	5	0	<ul style="list-style-type: none"> • <i>Coyotes, rabbits, horses, deer, foxes, and eagles were important to the traditional use of this site.</i> • <i>Rabbits, doves, chuckwallas, deer, big horn sheep, and antelope were important to the Indian people at this site.</i> • <i>When the animals are plentiful, there are rabbit, quail, and big horn sheep. Turtles were used in the past for food. The shells were used for bowls.</i> • <i>Traditionally, Paiute people used the deer. They also gathered quail and other bird eggs from the trees.</i>
Was there evidence of previous Indian use at this site?	5	0	<ul style="list-style-type: none"> • <i>The springs were used for habitation. There were trails near by. There was plenty of vegetation; people had gardens and used the animals. There is also rock art near by that people used in ceremony.</i> • <i>There are rock rings near by- hundreds of them, which people used.</i> • <i>The water and the vegetation show that the people were here. In addition, there are probably a lot of hearths and tools if you look hard enough.</i>
Did Indian people use the geological features at this site?	5	0	<ul style="list-style-type: none"> • <i>Indian people used the springs, the near by mountains and the trail systems.</i> • <i>The spring was very important. There may be a paint source in the immediate area too.</i> • <i>The canyons were important for the deer.</i>

Table 4.16 Cottonwood Spring Place Features



Figure 4.54 UofA Ethnographer and a Southern Paiute Representative at Cottonwood Spring

When asked, “are there places traditionally used by Indian people nearby that are connected to this place,” Indian people responded:

- *Yes. The mountains are connected by being here. Things are not out there randomly. The reasons can be in the air, above, and below ground.*

Impacts to Cottonwood Spring:

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what kinds of impacts did they have,” Indian people responded:

- *Diseases...everything they brought affected the Indian people. Europeans probably took things from the farms at the end of the growing season. Animals along the trail trampled the crops and introduced non-native plants. They probably let the animals walk in the water at places and going into the water would hurt the culturally significant plants.*
- *The non-Indian travelers appreciated this place. Because more and more people came; gradually, the place broke down. Trees were cut for firewood and building structures. Indians didn't come anymore. Disease stayed with the place. Animal waste puddle in the water and it probably stunk.*
- *The Indians were run off. They probably counseled over it but took the high road and went somewhere else. I imagine they came back to check it out but realized the non-Indians had put their claims on it.*

- *If Indian people could no longer use this place they'd go somewhere else, keep it a secret and word would spread that they lost it. They may have went to the Las Vegas springs, Corn Creek, Ash Meadows, Providence Mountains...they went to places like this where they felt safe.*



Figure 4.55 Southern Paiute Representatives and a UofA Ethnographer

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the plants at this site,” an Indian person responded:

- *When non-Indians began traveling through this place, they would have disturbed food sources like their gardens. Maybe the men with guns ran the Indian people away...they may have taken the Indian people's stores of food because if they were traveling they probably had used up all their own food sources and so they needed food. The herds would muddy up the water, trample the irrigation systems, and eat the plants around the stream. Cattle and horses would have wanted to eat and would have eaten the fields of Indian rice grass and ku'u (Blazing Star- *Mentzelia* spp.).*

When asked, “what impacts, if any did the presence of the non-Indian travelers have on the animals at this site,” Indian people responded:

- *The springs were used to water huge herds of horses and cows. The water could have gotten contaminated by animal wastes. Water was probably dammed and used just for the caretakers. Buildings were probably built and maybe even had arms on the premises.*
- *Large herds of animals changed the natural environment. They ate everything to the soil. They would stay for a few weeks gaining strength before heading towards the next leg of the journey. This was done on a regular basis so the animals put a hardship on the plants. This campsite was called Rendezvous #4 and the travelers knew it was a great place to regroup. They hardily looked forward to arriving.*
- *Animals came here to drink and cool off. However, the newcomers would make it different odors. They probably went elsewhere for their evening and morning drink.*

When asked, “what impacts, if any did the presence of the Non-Indian travelers have on the traditional use features at this site,” an Indian person responded:

- *People are always curious of petroglyphs. There are petroglyphs to the north and to the south of this site. The south side is directly on the Old Spanish Trail and probably captured the imaginations of the early travelers.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

Southern Paiute representatives made references to particular Southern Paiute leaders who oversaw the people in the various Paiute communities along the OST. One particular leader named Tecopa traditionally oversaw lands from Salt Spring to Cottonwood Spring. This section highlights the Southern Paiute leadership system and its roles in overseeing communities.

Cottonwood Spring was a traditional Southern Paiute community¹ located at the southern end of the Spring Mountains. This spring was home to a local Southern Paiute group named *Nowgats*. In some places throughout the Southern Paiute Nation it was common to find communities consisting of two hundred or more people. A few of the largest Paiute communities were found at *Pah hu wichi* which is discussed in detail in the previous site description. Cottonwood Spring while much smaller in size to *Pah hu wichi* functioned in a similar fashion. Powell and Ingalls counted 57 people living in this area during their census in 1871 (Fowler and Fowler 1971). It is important to note that the community likely had a larger population, however due to disease, slavery, and loss of resources, Southern Paiute populations declined. The spring flowed all year and provided enough water for permanent settlement and agriculture.

The High Chiefs and Traditional Ownership of the Land

Communities such as Cottonwood Spring had roles within the entire Southern Paiute Nation and they were a function of the traditional leadership system. Prior to the arrival of the Spanish, the Southern Paiute Nation had multiple levels of political organization. The nation included two major sub-divisions (sometimes referred to as sub-tribes)², twelve districts or regional units, and local communities which made up the different districts. Each political level had its own leaders. The leaders held special status in Paiute society. They had special symbols that were once highly visible in pre-contact Southern Paiute culture. The leaders, also known as

¹ Community is defined as people having shared beliefs, stability of membership, and complex, multilayered, long-term interactions with each other.

² The two major sub-divisions of the Southern Paiute Nation are based on ecological divisions as opposed political and social divisions.

High Chiefs, sometimes functioned as religious leaders in addition to being political officers (Laird 1976: 24). The High Chiefs wore turquoise and they spoke a special language known as “real speech” or *tivitsi?ampagapi* as well as speaking the version of Southern Paiute spoken by all members of the nation. The High Chief severed important cultural, political, and economic roles through the OST period.

The Southern Paiute people selected a principle chief or High Chief to oversee the nation by taking on a leadership position over the regional and local chiefs. John Wesley Powell and George Ingalls attempted to unpack the complexity of the Southern Paiute leadership structure in the early 1870s. They believed that the regional chiefs were leaders of what they termed confederacies of local communities (Powell and Ingalls 1874; Fowler and Fowler 1971:104). During their expedition, Powell and Ingalls identified twelve High Chiefs as Chiefs of Alliance. These chiefs were in charge of the local leaders who were considered chiefs and their communities (Powell and Ingalls 1874).



Figure 4.56 Chief Tecopa

One of these regional leaders was Chief Tecopa (Figure 4.56) or *To-ko-pur*, meaning “Wild Cat Eyes”. He acted as the leader for local chiefs who headed at least seven local communities which were located near Mount Potosi- Cottonwood Spring, Pahrump Spring, Kingston Mountain, Ivanpah, Providence Mountain, Ash Meadows, and Amargosa (Fowler and Fowler 1971: 104; Laird 1976: 24). These local bands roughly correspond to the boundary of what is called the Pahrump Paiute District.

The communities held specific territory like Cottonwood Spring, which has been interpreted as owning the land. This type of ownership does not translate into ownership in the Western sense where as one person or family holds sole possession and others are not allowed to use it. Ownership from a Paiute perspective reflects more of the relationship people have with the land through maintaining a positive partnership between humans, resources, and spirits (Miller 1983) and the knowledge people have land and resources. Resources were shared amongst the people but they had to maintain the long established relationship with what was around them.

The Impacts to Cottonwood Spring and the Paiute Community

Cottonwood Spring became a favorite stopping place for OST travelers. The large spring and the lush vegetation were very attractive to the horses and mules passing through. The incursion of travelers and their animals had devastating effects on the traditional Southern Paiute way of life.

The driving of large herds of horses and mules along the Spanish Trail also disrupted the Nuwuvi economy by depleting grasses and other plant life along the route. The caravans, though varying in size, were often as large as 200 men on horseback, accompanied by mules laden with goods and returning with as many as 2,000 to 4,000 horses and mules. The result of this activity for the Nuwuvi was cultural disruption," (Intertribal Council of Nevada 1976: 36).

The long standing natural resource partnerships the Paiutes had with the land were put into jeopardy by the spiritual and physical pollution caused by OST encroachment.

The environmental degradation was so great that it was documented by many of the travelers who passed through this area. When Henry Bigler, one of the Forty-Niners on his way to California, reached Cottonwood Spring he noted in his diary, “Fr. 23rd ...traveled about twelve miles from Las Vegas and camped on a little creek [Cottonwood Creek]. The camping was poor as most all the grass had been eaten off by emigrants’ animals ahead of us,” (Bigler 1853 as cited in Steiner 1999: 147).

To compound problems many travelers brought with them Old World diseases that led to a large number of deaths of Native people and some traders took part in the slave trade. Southern Paiutes were frequently targeted along the trail (Intertribal Council of Nevada 1976, Stoffle, Jones and Dobyns 1995). The slave trade began to have serious effects on Southern Paiutes after the 1779-1782 small pox pandemic. The Native American populations in Sonora, New Spain suffered major losses and this pushed the Spaniards to seek an increasing number of captives to

fulfill the roles of servants and laborers. Their new captives comprised a major portion of the provincial population. Stoffle and Dobyns wrote, "From the 1780s onward, slave raids began to slow Southern Paiute population growth, if it did not begin a steady depopulation of that tribe," (Stoffle and Dobyns 1983: 91).

During the Mexican period of the OST, traders from New Mexico would trade their goods for horses along the trail with other tribes and then would trade the horses for Paiute children. When the New Mexicans could not trade for Paiute children, they would raid villages along the trail. The children were taken to California to be traded. The cycle continued on the return trip to New Mexico where children were sold for around \$150 (Bolton 1950). According to Herbert Bolton (Bolton 1950: 201), "the Mexicans were fully established and systematic in this trade as ever were the slavers on the sea and to them this was a very lucrative business."

By the 1830s, it became too dangerous for Paiutes to live near or travel along the trail; thus forcing Paiutes to relocate to more remote and safer areas, such as the Spring Mountains, which was away from the trail (Stoffle et al. 2004). Southern Paiute people chose to seek protection in the hinterland of the Spring Mountains. During the Spring Mountains Cultural Landscape Study (Stoffle et al. 2004) a Paiute religious leader discussed seeking refuge in the mountains. He explained:

People would worship on the mountains but would leave this area after a few days and go back to their settlements where agriculture was possible. After invaders came along and took their family area, they moved into the mountains for protection and because they had no choice. That was their last bit of land and if they lost it that was that.

Southern Paiute people of Cottonwood Spring retreated into these powerful mountains because the Spring Mountains are the place of Creation. This action was a form of protection and resistance to the arrival of OST travelers. People sought protection in this location as opposed to neighboring powerful ceremonial places like the Pintwater Range because the Spring Mountains have only mountains in the area with permanent sources of water (Stoffle et al. 2004).

After the Indian people relocated themselves, the travelers continued to have a lasting impact. In 1850, a group of emigrants from Salt Lake City arrived at Cottonwood Spring. They set up camp in the meadow near the stream, which had disastrous results. David Cheesman wrote:

We left Vegas late in the day and traveled all night and the next night brought us to Cottonwood. The road was heavy, being sandy. Here was good feed and water. We camped in a grass patch and came near being burned up. The fire caught us from our cooking and spread out into the grass, but by good active work we got it suppressed, several of the men being around the camp though some of them had gone out to see a magnificent bluff mountain, the grandest sight since Echo Canyon (Cheesman 1930: 296).



Figure 4.57 William Henry Jackson's Drawing of Cottonwood Spring in 1867 (Lyman 2004: 177)

Seventeen years later, landscape artist William Henry Jackson made a sketch of Cottonwood Spring in May 1867 (see Figure 4.57). He, along with fellow horse wranglers, were driving northeast when he noted the lack of trees and other riparian vegetation in the area. This can be explained by grass fires that had plagued the area since 1850 (Lyman 2004).

The Return to a Traditional Way of Life

Between 1829 and the 1860s, the Indian people at Cottonwood Spring left the area due to the influx of Euro-Americans and their pack animals. They began to return after the slave trade had ended and overland travel slowed. When the Paiute people came back to the spring they began to farm again in an effort to regain control of their traditional territory. In 1869, Paiute agriculture was documented by Lieutenant Daniel Lockwood of George Wheeler's expedition through southern Nevada. He wrote:

At Cottonwood Springs and at Las Vegas there were quite a large number (Southern Paiutes) who moved back and forward between the two places, according to their fancy. They have small farms or gardens and besides the corn, pumpkins, melons, etc., raised by themselves, obtain scanty supplies for what little work that they do (Wheeler 1872: 75).

Lockwood's observation of Paiute agriculture documents how the Paiutes were reestablishing their relationship with their land that had been lost to them.

4.10 MOUNTAIN SPRING

Mountain Spring is located in the southern part of the Spring Mountains at an elevation of 5,518 feet. The spring is located northeast of the town that shares the same name (See Map 4.10). For Los Angeles-bound travelers, this site was the next stopping point after Cottonwood Spring, which is approximately eight miles to the east. Though there are a number of springs in the area, the traditional stopping point lay on the west slope, just below the summit (Steiner 1999: 151). As a seep spring, the water flow is variable at this location.

Geology and Ecology

Mountain Spring is composed of undivided rock that dates back between the Cambrian and Pennsylvanian periods. The older rocks are carbonate and quartzite from the Upper and Middle Cambrian period. The younger rocks consist of alternating deposits of limestone and sandy limestone (Stewart 1980: 26-27, 46).

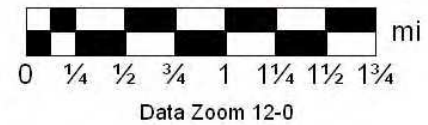


Figure 4.58 Mountain Spring

Mountain Spring is located in the Great Basin Conifer Woodland biotic community. It is a transition zone between the montane forests and the desert scrub communities (Brown 1994, Tingley et al. 2001). This community is a cold-adapted evergreen woodland unequally dominated by piñon pines (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*). This life zone can span between 1,500 and 2,300 meters in any give location and it is commonly found on mesas, plateaus, piedmonts, slopes, and ridges. Within this ecozone, there are numerous shrubs that are important subdominant species such as cliffrose (*Cowania Mexicana*), yucca (*Yucca* spp.), and bitterbrush (*Purshia tridentata*).



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Map 4.10 The Mountain and Cottonwood Springs Area

Summary of Interviews

Moapa, Las Vegas, and Chemehuevi representatives were interviewed by UofA ethnographers at this site. Five interviews were conducted on the use and meaning of Mountain Spring and the impacts the site endured through movement along the OST. Table 4.17 details the breakdown of interviews by tribe and gender.

Paiute Tribe	Male	Female	Total
Moapa	1	1	2
Las Vegas	1	0	1
Chemehuevi	1	1	2
Total	3	2	5

Table 4.17 Interviews at Mountain Spring

Native American Comments

Traditional Uses of Mountain Spring

When asked, “would Indian people have been attracted to this place as it existed traditionally and how would they have used it,” Indian people responded:

- *This site was adjacent to the major trail—the Old Spanish Trail. There is abundant vegetation important to Native people. There is evidence of archaeological sites in the region. There are roasting pits, springs, cedar, hearths—things important to native people and for their use. The Old Spanish Trail follows an Indian trail and animal trails. The hearths suggest living, hunting, and camping. There is much to gather here as vegetation provided much of the living infrastructure. Mount Charleston provided many commodities for Native people including vision quests, camping, hunting, and many other important festivities.*
- *They would live here because it would afford them to live off the land and protect themselves. Their songs, stories, and creation of all that belonged in their life existed here. The roasting pits are evidence of gathering resources—pine nuts, acorns, agave, venison and sheep, and also to gather pitch. When Chemehuevis gathered sunup (pine pitch) it was used for ceremonies. I would consider this part of the mountain range as Chemehuevi territory with the pass as communal territory.*
- *There’s a lot here...the viewscape, plenty of food, near important places. It’s nice in the summertime when it’s warm in the valley.*

Mountain Spring Place Features:

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	5	0	<ul style="list-style-type: none"> • <i>This place was important because it was a water source and a food source. Animals are attracted to the springs.</i> • <i>The spring is an important feature—there could be more than one here.</i> • <i>Indian people would use the seeping springs as a water source.</i> • <i>The water was used by the people and animals—it is a perfect spot.</i>
Was this site a source for plants?	5	0	<ul style="list-style-type: none"> • <i>There are roasting pits, springs, cedar, hearths—things important to native people and for their use. There is much to gather here as vegetation provided much of the living infrastructure.</i> • <i>The pine trees—they were a source of sap and pine nuts. There are medicine plants here.</i> • <i>Agave, pine nuts. You would stay for two weeks to harvest agave and a month to harvest pine nuts. Oak...roasted acorns too. They collected berries like squaw berries. They also collected wild onions, sage, and cedar. The yucca that was gathered was used to make things like ropes, sandals, soaps, and needles.</i> • <i>Indian people used sage, cedar, cottonwood, grasses, agave, cactus, pine trees.</i>
Was this site a source for animals?	5	0	<ul style="list-style-type: none"> • <i>The animals are attracted to the springs.</i> • <i>There are deer up in this area. The mountain sheep can go down to around 1,500 feet to where there is water.</i> • <i>Sheep, deer, mountain lions, birds, rabbits. They could have cooked the animals in the roasting pits and dried the meat by hanging it in the trees.</i> • <i>There are mountain sheep, deer, mountain lions, bobcats, chipmunks, packrats, and lots of insects.</i> • <i>There are eagles, birds, foxes, coyotes, deer found at this site.</i>
Was there evidence of previous Indian use at this site?	5	0	<ul style="list-style-type: none"> • <i>The circle with the different colored rocks is a ceremonial place for healing, prayers, and blessings. The first one we saw is for roasting...it is concave.</i> • <i>Easy access is important. People spent a couple of weeks to cook agave. They would store it in buckskins. The storage looked like big nets above the ground. Willow and cottonwood branches were woven into a nest. The men carried the agave while the women chopped it. They could put all kinds of things in there. They put special scents and spiritual powers around the storage containers—maybe like urine. They made shields and they also had people watch over it.</i> • <i>Indian people used the hearths, grinding stones, roasting pits, pottery, and they also gathered available resources.</i>
Did Indian people use the geological features at this site?	5	0	<ul style="list-style-type: none"> • <i>Springs on the whole mountain side, a mountain pass, a cave, and a trail system were important geological features used by Indian people at this site.</i>

Table 4.18 Mountain Spring Place Features



Figure 4.59 Southern Paiute Representatives at Mountain Spring

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

- *This would have been a place where Chief Tecopa would call his bands together. It would be a place where people fell in love and the women would go away without hostile feelings.*
- *This place was important because it was a water source and a food source. Animals are attracted to the springs. The circle with the different colored rocks is a ceremonial place for healing, prayers, and blessings. The first one is for roasting...it is concave.*

When asked, “are there places traditionally used by Indian people nearby that are connected to this place,” Indian people responded:

- *Ash Meadows—people had relatives living there. People would come together for special ceremonies. Corn Creek is connected, maybe there was a High Chief living there. They had gardens here which were shared. The Las Vegas people went to Mountain Springs for hunting and roasting food for caches. Tecopa Springs was also connected because it had hot springs for medicinal purposes.*
- *They could visit the Providence Mountains or the Chemehuevi would come here. Chief Tecopa loved Mount Potosi and he got his power from there. Maybe they would go to another spot. They were a controlled people. They had a lot of respect for their High Chief. When he would tell them to go to some place they would do it. The High Chief would be a diplomat and protect his people. He had to take care of the women and children.*

- *Mount Potosi, Mount Charleston—they are connected to this place by being here. Since the mountains have power, people pray to them for survival and they (the mountains) provided it.*
- *Mount Potosi, Mount Charleston, the Pahrump Valley, Las Vegas- they are connected through the valleys. They would come up here when it was too hot and when it was too cold they would go down into the valleys.*

Impacts to Mountain Spring

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area, and what kinds of impacts did they have,” Indian people responded:

- *If the people were here, they would have been impacted. Indians told them about the area. The travelers would camp all around. Places like this became visible for exploitation or manipulation. Non-Indians would destroy the Indian shelters.*
- *More and more non-Indians fluxed the area until the Indians felt encroachment. All resources weren't easy to get to, besides, the resources being trampled and burned.*
- *Non-Indians brought things tribal folks weren't used to and it made the Indian people sick and weakened them. Though the non-Indians and the Indian people might have interacted through trade after seeing them come through. The Indians might have helped them get across the valleys.*
- *This place is one of the last good stops before heading into the desert, so it may have been grazed heavily.*
- *The large pack trains would have impacted the area—lots of mules.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the water at this site,” Indian people responded:

- *The Indian had possession of waterholes in the beginning and they lived within its vicinity and utilized the water but later they would leave the area if it wasn't safe or were forced to leave because of outer influences not compatible to their life structure.*
- *There was more water then...the animals would have been trampling the spring itself. Also, the animals would have polluted the water with their droppings. There were so many animals and they probably would have stayed here for awhile—perhaps weeks at a time.*

When asked, “what impacts, if any, did the presence of the Non-Indian travelers have on the plants at this site,” Indian people responded:

- *Plants were chopped away to make a path or to make a clearing for a living. People traveling with animals and later with wagons hurt the plants. The animals ate the vegetation and trampled the plants.*
- *The animals would have been stomping in the springs, grazing, and stomping the plants.*
- *The animals would have trampled the plants and ate them down. The animals would have eaten them down to the ground. If the Indian people saw the horse doing this they would have tried to steal the horses.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the animals at this site,” Indian people responded:

- *Over time, domesticated animals were herded in and the wild animals, such as deer, sheep, eagles, foxes, and coyotes made for other locations since they liked their privacy, too. They probably were shot at or trapped for their fur.*
- *Non-Indians would have scared off the animals. They are not quiet when they travel. They would have made a lot of noise.*
- *The animals were fearful of the horse herds and would have ran away afraid.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the traditional use features at this site,” Indian people responded:

- *The Indians decided to leave. They left cracked grinding stones. This was their way of telling everybody they won't be coming back. Because the grinding stones are still there, it is evident that something significant happened to the people.*
- *Physically, the travelers didn't do anything but spiritually they could have by making noise and being disrespectful and not asking permission to come to this place could be an impact.*
- *The travelers would let the animals walk all over the cooking pits.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the geology of this site,” an Indian person responded:

- *Ancient hearths used to exist in the mountain pass. The pass was probably heavily traveled by both non-Indians and Indians alike. The Indians had a valuable trail over the mountain and they would have to forfeit it to progress.*

When asked “were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” an Indian person responded:

- *The connected places would have endured impacts like the ones that happened here.*

When asked “if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail, did the Indian people go somewhere else to replace activities formerly done here, where did they go, and why,” Indian people responded:

- *The people would share with each other and respect each other. The Indians were real similar but they all knew who was more powerful and who ruled areas. The people would have gone far away like to the Kingston Mountains to the south and Black Mountain in the north. They went there because they would have lived there. They had family and relatives in other places. The places and the people would have been under the control of a High Chief.*
- *Chief Tecopa or his father or grandfather probably went west or south into the Kingston and Providence Mountains. Some went to the north side of Mount Charleston, Ash Meadows, Black Mountain, Shoshone Mountain, Las Vegas Wash area the Las Vegas Springs area, and Cottonwood Spring. They went to those places because they are traditional territories. These places offered similar resources found on Mount Charleston.*
- *They would have gone further into the mountains seeking areas with similar resources.*
- *The Spring Mountains are powerful mountains and they took care of things for quite a distance.*



Figure 4.60 UofA Ethnographers and an Agave

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

Southern Paiute people have identified Mountain Spring as a traditional plant gathering area. The site was used at certain times of the year to harvest and collect food and medicine plants particularly, agave. A description of the gathering and preparation processes is provided in the following pages.

Mountain Springs offered a “welcome respite” from harsh desert temperatures for the OST travelers (Steiner 1999). The climate was temperate, and the availability of water and feed (seasonally) made this spring an ideal resting point. Fremont in 1844 wrote:

We encamped at a spring in the pass [Mountain Spring] which had been the site of an old Indian village. Here we found excellent grass, but very little water. We dug out an old spring and watered some of our animals (Steiner 1999: 150).

This account is unusual because Fremont traveled during the spring, when the water level should have been at its highest. This is again confirmed with Lt. John Chandler’s travel through this area; his report contains a note that a party had to be sent ahead of the group to clean up the spring for use. Henry Bigler gave another of this area in 1869 (Steiner 1999: 150):

Sunday 25th Clear and nice, went 8¾ by the roadometer and camped at a spring [Mountain Springs] to the right of the road in the mountain, grass scarce, fire wood in abundance...

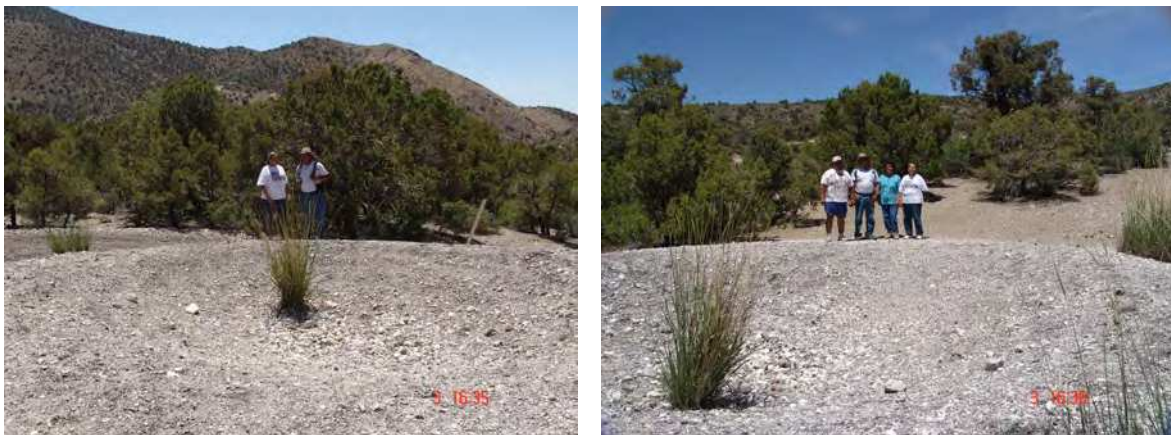


Figure 4.61 Native American Consultants at the Circular Pits

Indian people would have traditionally used Mountain Spring as a plant gathering area. They traveled to Mountain Spring at certain times of the year to harvest and collect food and medicine plants, such as agave (*Agave utahensis*), yerba mansa (*Anemopsis californica*) and pine nuts. Agave, known as *Yant*, *Yaant* or *Nant*, though *Yaant* is most accurate, is commonly found in the limestone canyons of the Spring Mountains (Rhode 2002). *Yaant* was an important food source for Indian people; it was collected during late winter and early spring, when other sources of food were scarce. At this time of the year, the basal rosette is full of stored sugars, and Indian people would go out in large groups to collect these “hearts,” which were then taken back to the camp and roasted in pits (Rhode 2002: 104).

Archaeological evidence suggests that the two large circular pits found at Mountain Spring were used in agave processing, which corresponds to comments about *Yaant* preparation made by Native American consultants. One Southern Paiute elder noted in 2002 that “people who gathered the yaant used a rock pounder. They would go to the center [the agave heart]. It would be severed when it’s ripe...that’s what they’re after” (Stoffle, Toupal, and Zedeno 2001: 48).

After the rosettes were severed from the agave with a digging stick, the leaves were cut off with a special mescal knife. These hearts were taken to a centralized processing area in a large basket for roasting. The roasting pits were about three feet deep and eight to ten feet in diameter (Kelly 1964). These pits were built in open and accessible areas in order to function as a service camp as game was hunted nearby (Stoffle, Zedeño and Halmo 2001: 48). They were also required to be limestone in construction. Rocks lined the bottom, and a large fire was built on top (Rhode 2002). When the fire burned into an even bed of coals, the harvested agave hearts were placed in the pits. The pit was covered with juniper bark, grass, and dirt. The following comments were made by a Southern Paiute elder during a 2002 study of Indian places and resources in the Desert National Wildlife Range and the Pahranaagat National Wildlife Refuge of Nevada (Stoffle, Toupal, and Zedeno 2001):

The Paiutes used to go down the river a long time ago and they gathered yaant, and after they gathered it they would roast it. And they would also make a small niche where they’d roast their yaant. And then it bakes all night. So that yaant has syrup too. The syrup seeps out of the ground. The syrup is gathered...The next morning they’d get that syrup and remix it with yaant, and dry it on the rocks there the next morning.

The hearts were roasted for one to two days at a time. The roasting was a time of celebration, where much “singing, dancing, gambling, and merry-making” took place (Rhode 2002: 104-105).

In those days, after the feast, there would be a ceremony, a dance...There would be a peace dance. There are old words that we use, older Paiute words that we use...

...It [the agave roasting site] would be considered as a sacred land and also...as a power against the enemies. Back then we had a lot of enemies...They [Indian people] have eaten, they have danced there, they have had [a] ceremony there at those places.

There was also ceremonial activity involved in the roasting process; below an elder describes who was allowed to build the fire for roasting (Stoffle, Toupal, and Zedeño 2002):

First they [Indian people] would structure a small roasting pit and then they would find wood for it, and the only person that was allowed to build a roasting pit or find wood would be the person who was born in June, in mid-summer...This was the only person allowed to build that kind of fire for that kind of roasting. So he would start up the fire from the east...So this man had no clothes on—naked—roasting yaant. And he would be the only person roasting; no other person...

He would roast it [agave] on a hot surface ground. So that's how he would collect the syrup. This person...would have an arrowhead to cut up small pieces to distribute to people...I guess his name was "person born in summer."

This person would be trained first. He'd learn from a person who had also done that kind of work...And also a person who knows how to make bow and arrow. He'd learn from his father...The people already knew that the person was born in summer. That's how they would choose the person. A person born in summer would teach a young man.

When the pits were opened, the hearts were “dark, soft, and sweet, tasting like molasses” (Rhode 2002: 105). People ate them straight from the pit and also cooled them and flattened them into cakes for “drying and storing.” These cakes, which are called *pik^yovi* or *nantapik^yovi* in Chemehuevi, could be as large as several feet in diameter, and were extremely tough, often used as food when traveling. Frederick Dellenbaugh, an early explorer, described the cakes as “powerful laxative(s)” (Jones 1948). Other preparations of *Yaant* include roasting the leaves while still attached to the hearts, and them eating them like an artichoke; the leaves tasted like “burnt sugar” when prepared in this fashion. Later on, the tough agave fibers were also utilized as gun wads (Rhode 2002).



Figure 4.62 UofA Ethnographer at the Dance Circle

As one Native American consultant also commented in the 2002 study, these pits serve as places to “*harvest plants, such as yucca, for food and baskets...to hunt sheep and deer*” (Stoffle et. al. 2002: 48). However, these pits were also interpreted by Native American consultants to have multiple uses. The pits are connected to animals through the movement of game, deer, sheep, and antelope; they are also connected to plants through the harvest, water through the camps built around them, and the surrounding land through the rocks with which they are made (Stoffle et. al. 2002: 47-48). This ties into a third feature found at Mountain Spring that resembles a filled-in agave roasting pit. Indian people interpreted it to be a dance circle. This dance circle may be associated with harvesting ceremonies. One example of this is associated with the fall pine nut harvest. Before and after pine nuts were gathered, prayers, ceremonies, and dances were held. These rituals gave thanks to the land for providing the resource and to ensure that the pine nuts would return in future years.

4.11 STUMP SPRING

After leaving Mountain Spring, Stump Spring was the next water source for travelers along the OST. The spring is located in the southern part of the Pahrump Valley near Hidden Hills (see Map 4.11). Stump Spring is approximately thirteen miles away from Mountain Spring to the east and twenty-four miles from Resting Spring to the southwest.

Geology and Ecology

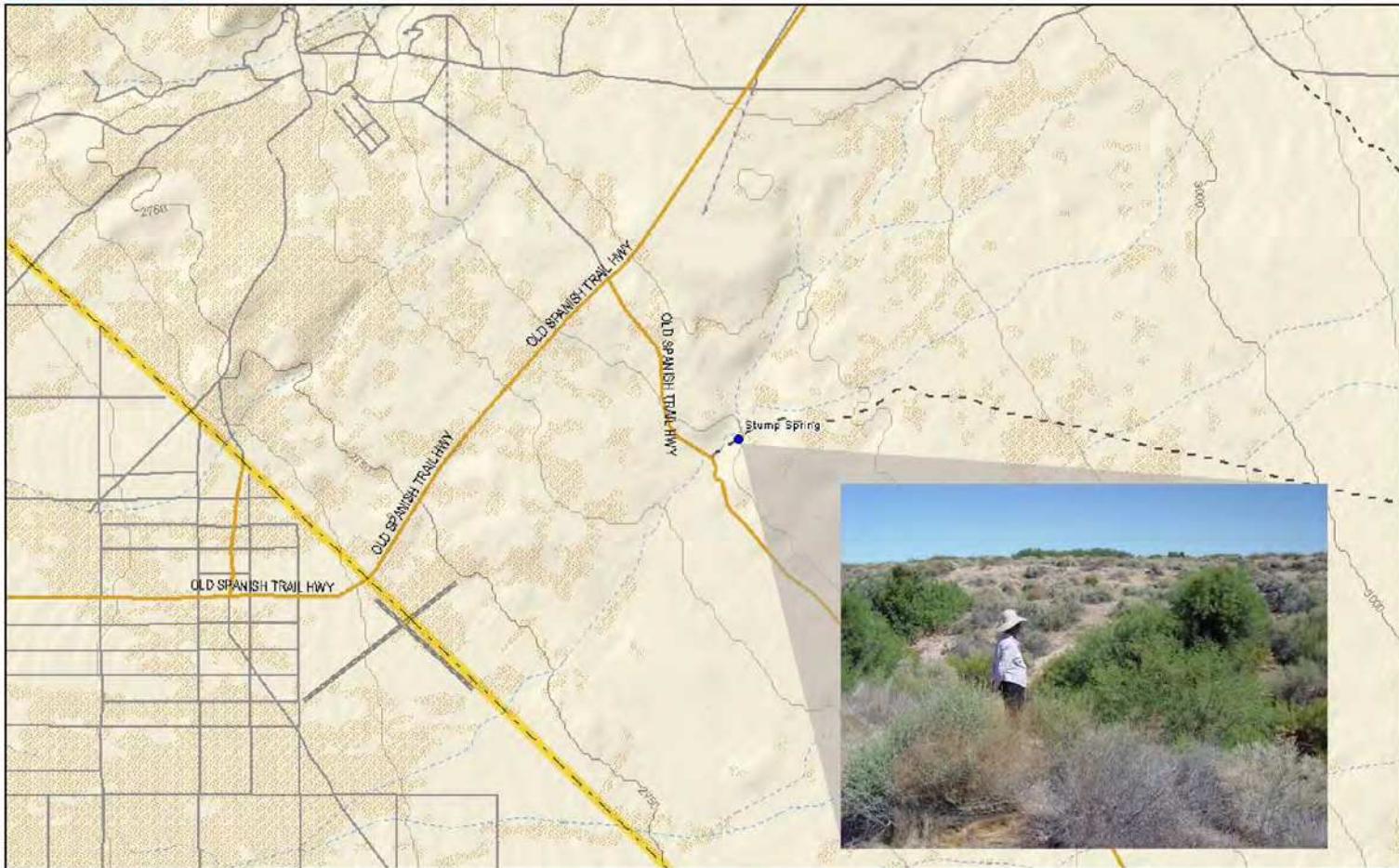
Stump Spring is situated in a gully found in a clay deposit. The water from the spring comes from seepage from either the clay beds or the gravel directly under the clay. This spring has never been a constant water source. USGS water studies indicate that flow was unreliable and when water flow was normal, it was estimated to be about twenty barrels a day (Steiner 1999).

During Fremont's journey across the OST, he described Stump Spring as "a deep spring hole on a river that loses itself in the sand," (Fremont 1845; as cited in Steiner 1999: 156). His expedition led him to Stump Spring during a time of year when it was best to see and collect surface water.



Figure 4.63 Stump Spring

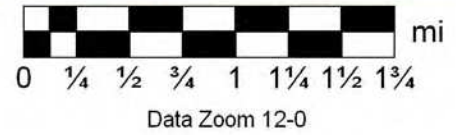
This spring is located at an elevation of 2,846 feet and is part of the Mojave desert scrub biotic community. As the smallest desert land biome in North America, it acts as the intermediate between the Great Basin and Sonoran Desert scrub. In the Mojave Desert, the annual precipitation is between 65mm and 190 mm. These averages exclude Death Valley (Brown 1994). The plant community around the spring is dominated by creosote bush (*Larrea tridentata*). Found amongst the creosote are various types of small cacti (*Opuntia basilaris* and *Echinocereus engelmanni*). At the spring, plants such as mesquite (*Prosopis* spp.) and three-leaf sumac (*Rhus trilobata*) were identified.



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Map 4.11 The Stump Spring Area

Summary of Interviews

UofA ethnographers interviewed tribal representatives from the Pahrump Paiute Tribe at this site. Three interviews were conducted on the use and meaning of Stump Spring and how it was impacted by movement along the OST. Table 4.19 details the breakdown of interviews by tribe and gender.

Paiute Tribe	Male	Female	Total
Pahrump	1	2	3
Chemehuevi	0	0	0
Total	1	2	3

Table 4.19 Interviews at Stump Spring

Native American Comments

Traditional Uses of Stump Spring

When asked, “would Indian people have been attracted to this place, as it existed traditionally, and how would they have used it,” Indian people responded:

- *This would have been a regular home for the Indians because of the water. They would have probably grown crops here because they did at Hidden Hills. They irrigated from the Mount Charleston water coming down and that other spring on that side named Williams. That’s what they were irrigating with.*
- *The water and plants would have attracted Indian people to this place as a refuge area.*
- *This area is a refuge that can be seen by Mount Charleston.*



Figure 4.64 UofA Ethnographer with Southern Paiute Representatives

Stump Spring Place Features:

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	3	0	<ul style="list-style-type: none"> • <i>This would have been a regular home for the Indians because of the water.</i> • <i>Indian people would have used the springs.</i>
Was this site a source for plants?	3	0	<ul style="list-style-type: none"> • <i>Indian people stayed here to harvest mesquite.</i> • <i>The willows, mesquites, and sumac would have been used.</i>
Was this site a source for animals?	3	0	<ul style="list-style-type: none"> • <i>Big horns would have come down here to water from the dry hills southwest of here.</i> • <i>The dove, quail, coyotes, red-tail hawks, and chipmunks are important to this site.</i>
Was there evidence of previous Indian use at this site?	3	0	<ul style="list-style-type: none"> • <i>There would have been trails down to the New York Mountains and the Providence Mountains because the Indians used to live down there.</i> • <i>There are flakes and hearths all over.</i>
Did Indian people use the geological features at this site?	1	N/R	<ul style="list-style-type: none"> • <i>The springs and the canyons are important geologic features at this site.</i>

Table 4.20 Stump Spring Place Features

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

- *A medicine man lived here who used to travel to Gypsum Cave.*
- *I think this name (Stump Spring) is after that medicine man they used to call Pingets. His last name was Stomper. He was a medicine man. Pingets...like pig because he was a fat man. He probably lived here and they probably named it after him. His name was John Stomper and when he was singing he might stomp on the ground. He was here before our time. (Before 1900?) Before that, late 1800s. He is on the Indian roll.*

When asked, “are there places traditionally used by Indian people near by that are connected to this place,” Indian people responded:

- *Yes, Brown Springs, Pahrump Springs, Carpenter Canyon, Ash Meadows, Six Mile Springs, and Mount Charleston*



Figure 4.65 Southern Paiute Representative at Stump Spring

Impacts to Stump Spring

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what kinds of impacts did they have,” Indian people responded:

- *When the white people first came through, maybe some of the Indians were afraid because they never see the white people before in their lives. They wouldn't have been afraid of their horses though.*
- *When the non-Indians began traveling through, Indian people were scared. The non-Indians stole their plants, water, and land. They also kidnapped Paiutes.*
- *When the travelers first came, the Indian people were afraid of the white people- don't know what they are if they are humans or what...might think it was a nupaits or ghost.*

When asked, “were these nearby Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *Yes. They drove Indian people away and the Indian people got sick.*

When asked, “if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail, did the Indian people go somewhere else to replace activities formerly done here, where did they go and why,” Indian people responded:

- *They went to Pahrump, Ash Meadows, and Tecopa because of sickness and fear of being kidnapped.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

Southern Paiute people believe that this was a place of ceremonial activity and was the home of a medicine man. This section describes different types of Paiute medicine men and their specialized functions such as able to use their powers to heal and restore balance to an individual, a community, and even the world.

This site was an area of ceremonial activity. In the late 1800s, this site was home to a Southern Paiute medicine man named John Stumper or *Pingets*. Information about John Stumper is scarce, but Kelly (1933) wrote that his name is *Iwárinkob*, and means rain face. Stumper's

father was a Deer Singer and lived around Sunrise Mountain. The name of the site, Stump Spring, is attributed to the way John Stumper performed doctoring ceremonies, by stomping on the ground. It was also common for medicine men to live away from the major communities. Sometimes the medicine men had too much power and in turn, it could cause harm.

According to local historian and rock art enthusiast, Don Hendrix (2006), numerous incised stones were collected from this site prior to the UofA study. The incised stones at Stump Spring were found near small hearths located away from the spring. While in the past, many stones were found at this site, none remain today, due to looting. In fact, hundreds have been found and collected from various places of known ceremonial activity in the Spring Mountains (Stoffle et al. 2004).



Figure 4.66 Don Hendrix Searching for Artifacts

Incised stones are small flat rocks that are about an inch wide and three to four inches long with narrow line designs etched into them. In the Great Basin region, incised stones are divided into three stylistic zones. Stump Spring is found in the Southern Stylistic Zone, which occurs in southern Nevada and the area in and around Death Valley in southeastern California. The Southern style tended to, “integrate curvilinear elements and to append disparate motifs” (Tuohy 1986).

These stones have been interpreted to have similar functions as Hopi prayer sticks (Stoffle et al 2004). Incised stones in the Great Basin served as doctoring items that were used by

shamans for healing and treating illnesses (James 1983). Pendants have been crafted from incised stones (Rector, Swenson, and Wilke 1981) and they have also been used for practical functions as well (True and Waugh 1983).

When looking for clues to an incised stone's function it is important to acknowledge the environment and situation in which the stone is found. The stones found at Stump Spring were located near small hearths, which suggest they were used for ritual or offering purposes. This evidence suggests that the incised stones at this site were used in a similar way to the incised stones found in the Spring Mountains (Stoffle et al 2004). The importance of shamanism, doctoring, and medicines to Indian people along the OST cannot be overlooked.



Figure 4.67 An Incised Stone Found in the Spring Mountains

According to Numic belief, *Puha*, power that circulates through all life forces, is unequally distributed among people. Those who have the highest concentrations of *Puha* are called *Puh'agantis*, or shamans (Carroll and Stoffle, 2005). Kelly's (1939) description of Southern Paiute shamanism presents a comprehensive description of how a shaman gets his or her healing power. An unsolicited familiar spirit usually contacts a *Puh'aganti*, in a dream, and on most occasions, these spirits most often take the form of an animal, but human forms are not unknown. The spirits teach the shaman songs and instruct him or her in healing and doctoring activities (Kelly 1939).

For Numic people, Puh'agantis are valued members of a community because they are able to use their powers to heal and restore balance, "Within individuals, whole communities, and the living physical environment," (Carroll and Stoffle 2005: 779). Many illnesses or a material disease object are treated by songs and the sucking of the evil object by the shaman, although sometimes a shaman is required to pursue a lost soul and return it to the ill person (Kelly 1939). In order to affect this healing, a spirit or helper animal often serves a Puh'aganti. This is evidenced in the Shoshone understanding of hummingbirds. It is believed that inside hummingbirds are spirits of medicine men and because of this, hummingbirds and Puh'agantis share a close bond (Carroll and Stoffle 2005).

The most common type of Puh'aganti to the Southern Paiute people is the Rattlesnake doctor, but others exist also like the spider doctor, rock doctor, or the shaman who helped in the delivery of babies (Kelly 1939). The Rattlesnake Shaman was able to heal people bitten by a rattlesnake, or at times another poisonous animal bite, through song and sucking of the poison from the afflicted person. Some Southern Paiutes hold that the sucking of poison is actually performed by the shaman's guardian spirit that is inside the shaman's throat or mouth (Kelly 1939).

A noted example of the characteristics and power of a great Puh'aganti is Wovoka, who was a prophet and healer in the 1890s. Wovoka received five songs to heal the earth and control the weather. These songs, which were meant to return balance to the world, came to him in a dream-like state. These songs were used for, "making rain, the first of which brings on a mist or cloud, the second a snowfall, the third a shower, and the fourth a hard rain or storm, while he sings the fifth song the weather becomes clear," (Mooney 1896: 15). Indian people taking part in the 1889 Ghost Dance saw him with a beautiful white horse. This horse, it is believed, was his helper animal (Carroll and Stoffle 2005).

4.12 RESTING SPRINGS

Resting Springs is a well-known stopping place for OST travelers. This was the next water source that travelers would encounter after leaving Stump Spring. At 1,750 feet, the area is “a veritable oasis” (Mendenhall 1983: 39). Resting Springs is one of three places in the Death Valley region where hay can be obtained. A number of wagon roads connected through Resting Springs, and the area was popular during the days of the OST. These springs were then known as the Archilette, and were described by J.C. Fremont as “a grassy spot, with springs and bushes, which make a camping place.” Fremont stopped at this site in April of 1844, naming the springs “Agua de Hernandez” after the survivor of an ambushed party (Mendenhall 1983: 40). Decades later, both the San Bernadino and Salt Lake emigrant roads passed the springs and headed further on to Emigrant Pass (Mendenhall 1983: 40).



Figure 4.68 Resting Springs

Geology and Ecology

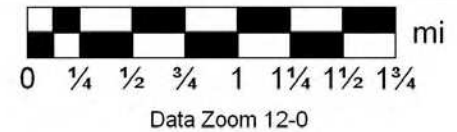
Located at the southern end of the Resting Springs Mountains, the area is primarily sandstone and the water runs clear (Mendenhall 1983: 39). Geologically, the area is characterized by welded tuffs, which are sequences of “rapidly moving, hot volcanic ash flows that partly buried the irregular surface features of an older landscape” (Sharp and Glazner 1997: 28). This older landscape has eroded into surviving rocks from the Cambrian or Tertiary phases. Welded tuffs are very common in this portion of California, Nevada, and Utah, covering much of this region, 20 to 40 million years ago. “A welded tuff forms when a large amount of hot, gas-rich magma is explosively blown from a volcanic vent,” (Sharp and Glazner 1997: 29). Temperatures during these bursts exceed 1,300° F, and the resulting pumice is composed of tiny glass fragments, ranging in size from fine dust to as large as an automobile. Since this foamy mixture is denser than air, gases leak out of the pumice particles, serving to keep them mobile while also forcing the flows to act as a fluid, hidden under a cloud of gray ash.



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Map 4.12 The Tecopa and Resting Springs Area

The ash can travel for over a hundred miles, as very large eruptions can send the material 70,000 feet into the air (Sharp and Glazner 1997).

Ecologically, Resting Springs resides within a warm-temperate desertland, specifically the Mojave desertscrub biome (Brown 1994). This biome is the smallest of four North American desertland biomes, and is considered to be intermediate to the Great Basin and Sonoran desertscrub biomes. This biome occupies only about 1/16 of the Southwest, sharing a good deal of its vegetation with its intermediate biomes. It is considered to be separate, however, because of “long established usage and its warm temperate climate” (Brown 1994: 158). Among species commonly represented in this biome are Engelmann hedgehog (*Echinocereus engelmannii* var. *chrysocentrus*), silver cholla (*Opuntia echinocarpa*), Mohave prickly pear (*Opuntia erinacea*), and beavertail cactus (*Opuntia basilaris*) (Brown 1994).

Summary of Interviews

Pahrump and Chemehuevi Paiute representatives were interviewed about Resting Spring, and the three interviews detailed the uses and meanings of the site, as well as impacts presented by travelers along the OST. The following table (Table 4.21) is a breakdown of the interviews by tribe and gender.

Paiute Tribe	Male	Female	Total
Pahrump	1	2	3
Total	1	2	3

Table 4.21 Interviews at Resting Spring

Native American Comments

Traditional Uses of Resting Springs

When asked, “would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded:

- *Indian people lived there all year round, they had permanent houses. The Indian name [for Resting Springs] is Yagah. Coyote gave the spring that name and Coyote put people at the spring. They always had gardens for agriculture.*
- *There were people living in Resting Springs, and in Shoshone.*
- *Yes, water, food, medicine, and acoustics were attractive.*

When asked, “are there places traditionally used by Indian people near by that are connected to this place,” Indian people responded:

- *According to an Indian legend, the Colorado River originally ran through here, but Owl turned it back. Owl didn’t want the water here. There would have been a lot of people*

Resting Spring Place Features:

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	3	0	<ul style="list-style-type: none"> • <i>It was a place Indian people used to live. There was enough water for two to three families. It is a pretty good spring.</i> • <i>Indian people lived at the springs.</i>
Was this site a source for plants?	3	0	<ul style="list-style-type: none"> • <i>Cottontails, lots of sugarcane a little up the valley, in Shoshone. They used the cane as a bow, arrow, but not arrow weed, which is a bluish-grayish color and used to make arrows. They might have had arrow weed here, but it may be further towards Shoshone or Pahrump. They also found watercress here. Our Father took some in water and it grew to about four feet in spring.</i> • <i>They used cattail, mesquite, screwbeans, Indian spinach, and Hoop Beans.</i>
Was this site a source for animals?	3	0	<ul style="list-style-type: none"> • <i>Birds, particularly ducks, were important—nice to eat, along with doves and quail. They were too far away for deer, but there were some big horn sheep near Chaco Springs. No antelope, but there used to be some in Pahrump.</i> • <i>There were cottontail rabbits, chuckwalla for medicine and food.</i> • <i>Hawks, quails, doves, rabbits, coyotes, mountain sheep, chuckwallas, and whiptail lizards were important to the Indian people here.</i>
Was there evidence of previous Indian use at this site?	3	0	<ul style="list-style-type: none"> • <i>Indian people lived there all year round, they had permanent houses.</i> • <i>There are rock rings and Indian medicine.</i>
Did Indian people use the geological features at this site?	3	0	<ul style="list-style-type: none"> • <i>Indian people traditionally used the water, the nearby mountains and the acoustics of the area.</i>

Table 4.22 Resting Spring Place Features

here, if the river came through this area. Water originally came through the gully, but Owl changed that with his words; the water listened.

- *Yes. Shoshone, Pahrump, Kingston, Goodsprings, Spring Mountains, Ash Meadows, and Indian Springs.*

Impacts to Resting Springs

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what kinds of impacts did they have,” Indian people responded:

- *When the non-Indians came, the Indian people couldn’t practice their religion and had to hide out.*
- *In the old days, there were lots of people here. Travelers saw people growing things. The Indians were probably equally afraid, didn’t recognize white people as human beings.*
- *In 1844, at Resting Springs, there was an Indian/Mexican battle. There were two women [involved]. They were probably Indian, or at least half blood, because the Spanish didn’t bring women.*
- *[Indian people] couldn’t practice religion and had to hide out.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the water at this site,” Indian people responded:

- *The non-Indians stole the water and they didn’t respect it so it went away.*

When asked, “what impact, if any, did the presence of non-Indian travelers have on the plants at this site,” Indian people responded:

- *The non-Indians didn’t respect the plants and the plants went away.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the animals at this site,” Indian people responded:

- *There were groups of horses that would migrate across the Mojave Desert, at least a thousand horses. They would stop here. They [the travelers] would round up the horses like cattle, and take them to old Mexico to sell. They would also sell Paiute women and Africans—crate the horses off like that.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the traditional use features at this site,” Indian people responded:

- *They affected the acoustics.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the geologic features at this site,” Indian people responded:

- *The canyons were affected.*

When asked, “were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *There was no respect for things and they went away or could not be used if contaminated by sickness.*

When asked, “if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail, did the Indian people go somewhere else to replace activities formerly done here, where did they go and why,” Indian people responded:

- *They went to the surrounding areas of Shoshone, Pahrump, Kingston, Good Springs, Spring Mountains, Ash Meadows, and Indian Springs because there was power there and safe and abundant plants, medicine, and animals.*



Figure 4.69 The Road to Resting Spring

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature. During interviews, Southern Paiute representatives recounted stories of travelers and large horse herds in the area. UofA ethnographers have complemented their stories with accounts of travelers visiting Resting Springs from the literature.

Resting Springs was a well-known stopping point for travelers along the OST. When Antonio Armijo was traveling north from the Kingston Range in 1829, he came across a place he named “the little salty springs” (Steiner 1999: 44). Resting Springs provided the most logical camping spot that “fits the time of [his] travel” but there are some questions concerning his description. To later travelers along the OST, Resting Springs were “lauded [for their] copious, life-saving waters,” and even today “is not a little spring.” However, Resting Springs, like most of the springs in this area, does have a high concentration of minerals in its water, fitting what Armijo described as “salty” (Steiner 1999: 44).

Indian consultants also remembered a large herd of horses that roamed this area. “*There were groups of horses that would migrate across the Mojave Desert, at least a thousand.*” One consultant said, “*they [the horses] would stop here [at the springs].*”

Consultants also remembered stories of travelers taking the horses to sell further along the trail. “*They [the travelers] would round up the horses like cattle; take to old Mexico to sell. They would also sell Paiute women and Africans—crate the horses off like that.*”

Fremont’s encounter with the survivors of an ambushed Mexican party also demonstrates the horse trade discussed by consultants. This is the “Indian/Mexican battle” that one consultant discussed. In late April 1844, Fremont and his party were surprised by a “very distraught” man and boy, named Andreas Fuentes and Pablo Hernandez (Steiner 1999: 55). The two had been part of a trading party, traveling with horses along the OST toward New Mexico. The party had departed “ahead of the major semi-annual Spanish caravan” in order to claim the best water and grass for their horses (Steiner 1999: 166). When the trading party stopped at the Archilette Spring, now Resting Springs, they were attacked by a group of Indians; the two survivors told Fremont that they had been guarding the horses at the time and managed to escape (Steiner 1999: 55). Fuentes and Hernandez left the remaining horses at the spring, and backtracked along the trail toward Los Angeles to find help. With the assistance of Fremont and his men, a few of the thirty missing horses were recovered (Preuss 1958). Fremont also “punished the Indians for their transgressions” (Steiner 1999: 56).

Although Fremont praised the actions of Kit Carson and Alex Godey, the two members of the Fremont party who “punished” the Indians, Charles Preuss, a German cartographer and another member of the Fremont party, did not. Fremont, in his journal, suggested that Carson, as

an American, and Godey, as a Frenchman from St. Louis, were “models of Western bravery before the German tenderfoot” (Preuss 1958: 127). This is an accounting of the incident as recorded by Preuss:

Yesterday we stopped here to give Godey and Kit a chance to pursue the horse thieves. But this would require a more detailed narration than I could now give in this heat . . . two scalps from the hands of Alex Godey. Are these whites not much worse than the Indians? The more noble Indian takes from the killed enemy only a piece of the scalp as large as a dollar, somewhat like to tonsure of a priest. These two heroes, who shot the Indians from behind, brought along the entire scalp. The Indians are braver in a similar situation. Before they shoot, they raise a yelling war whoop. Kit and Alex sneaked, like cats, as close as possible . . . Godey rode into camp with a yelling war cry, both scalps on a rod before him. Kit was somewhat disgruntled from his bad luck, [he brought back no scalps] . . .

This Spaniard [Fuentes] does not benefit much from our having recovered [the] horses. Because of these detours without grass, the horses have become so weak that one after the other must be left behind (Preuss 1958: 127-128).

The Resting Springs gained “a mournful notoriety” because of this incident. Carson noted in his biography, “our presence in this region was regarded with suspicion and distrust” (Brewerton 1930: 94).

4.13 TECOPA AREA

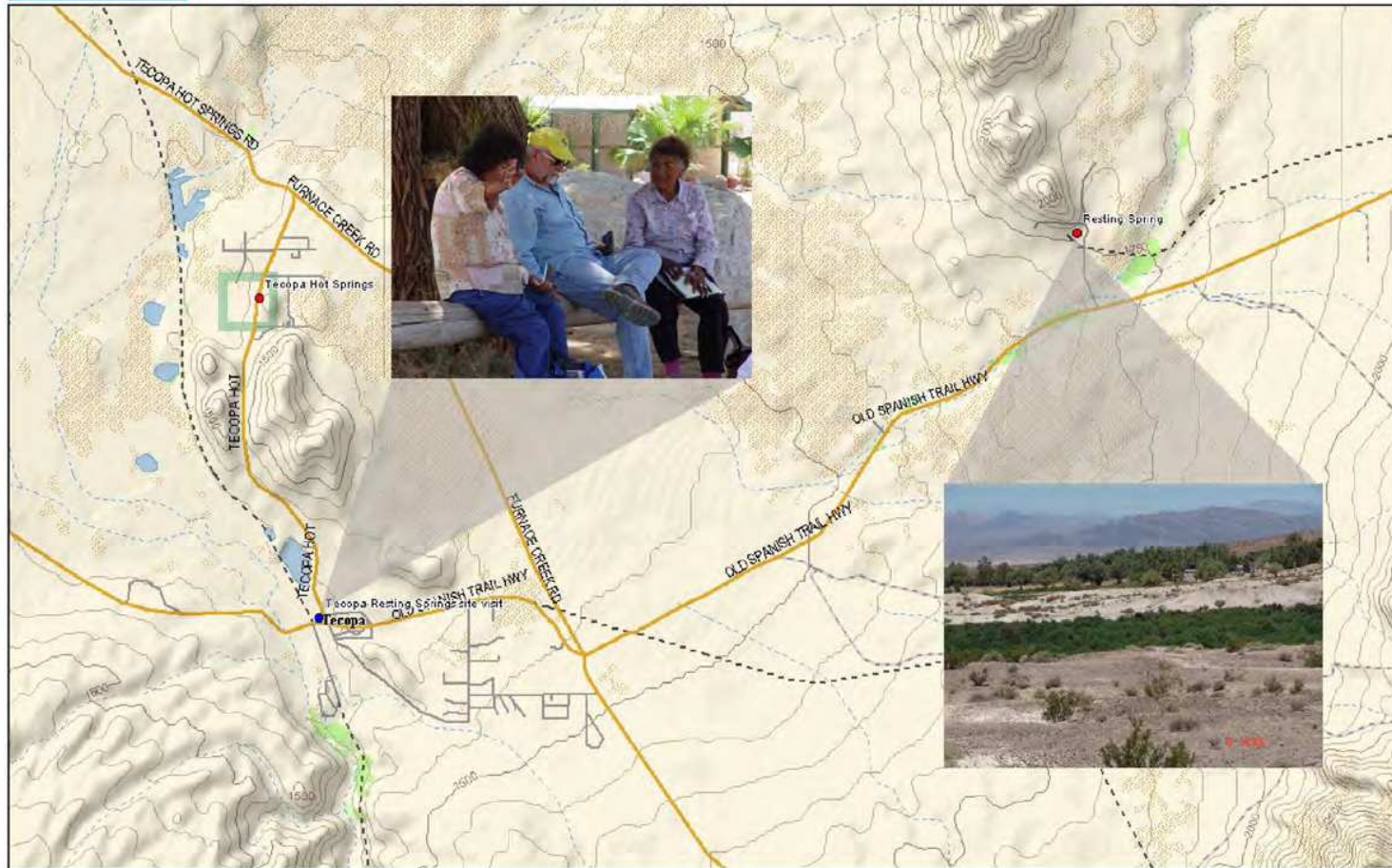
Travelers leaving Resting Springs would next arrive at the Tecopa Area, which is situated in a very old lake basin bisected by the Amargosa River. The river arrives in the basin from the north and flows southward through a cut in the basin forming a series of canyons, and then passes Dumont Dunes. From there the Amargosa River unites with a river from the Silurian Basin and together they turn west towards Death Valley. In the late Pleistocene, these drainages filled Death Valley forming what is called Lake Manley.

Key to this OST analysis are a series of hot springs located near the Amargosa River and a large fresh water spring along the river in the canyon system about five miles south. The spring and associated riverine oases in the bottom of these canyons were the traditional residence of Indian people. The hot springs were a regionally and perhaps inter-ethnically important center of American Indian ceremonial activities. Tecopa is known for its bathing hot springs and is considered a place of healing and doctoring by Indian people.



Figure 4.70 Tecopa

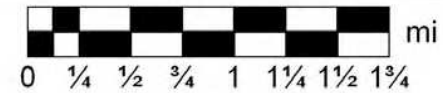
Historically Tecopa was connected to Resting Springs by a wagon road found five miles north of the road to China Ranch and about seven miles south of the Tecopa station along the Tonopah and Tidewater Railroad (Mendenhall 1983). The Tecopa camp was named by J.B. Osbourne in 1874; it was a show of respect for Chief Tecopa, a Southern Paiute leader who was “honored for the peaceful relations he maintained between the Southern Paiute Indians and the white men who came to live among them” (Averett, Walter R., as quoted in Carlson 1974: 229).



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Map 4.13 The Tecopa Area

Geology and Ecology

Until 500,000 years ago, the Tecopa Basin was the site of an ancient lake that covered 85 square miles and was over 400 feet deep (Sharp and Glazner 1997). Lake Tecopa was created by the Amargosa River, which formed the basin by faulting with gravelly deposits at the south end of the valley. The drainage region of the Amargosa covered an area more than forty times the size of the lake, and was responsible for providing the lake with most of its water. It is thought that Lake Tecopa “self-destructed” by overflowing its rim in the southern valley. Perhaps the rim breach was due to a climactic shift to wetter weather. Sediments brought into the lake by the Amargosa River were several hundred feet thick. Erosion today still has not broken through these thick layers of sediment, which are composed of clay, silt, and fine sand but with many layers of shoreline conglomerate, sandstone, calcereous tufta and volcanic ash (Sharp and Glazner 1997).

Two hot springs are located about half a mile northeast of the Tonopah and Tidewater Railroad. Between these springs, 200 gallons of water is yielded per day. This water is said to contain sulphates of soda and magnesia, borax, and niter. The temperature of the water is roughly 107° F. The springs were used by Euro-Americans for recreation, part of the water was once piped to the railroad tracks, and there is evidence of occasional use of the site by travelers for bathing (Mendenhall 1983). Indian people continued to use the hot springs for curing and spiritual ceremonies.

Ecologically, the Tecopa area falls within the Mojave desertscrub biome and was designated as an ACEC in 1980 as part of the Amargosa Canyon Natural Area. As the smallest of the four North American desertland biomes, it shares a percentage of its vegetation with two intermediate biomes, the Great Basin and Sonoran desertscrub. Mojave Desertscrub is considered to be separate, however, because of “long established usage and its warm temperate climate” (Brown 1994: 158). Among species commonly represented in this biome are Engelmann hedgehog (*Echinocereus engelmannii*), silver cholla (*Cylindropuntia echinocarpa*), Mohave prickly pear (*Opuntia chlorotica*), and beavertail cactus (*Opuntia basilaris*) (Brown 1994).

Summary of Interviews

During the recent field session, members of the Pahrump Paiute tribe were interviewed at Tecopa. The three interviews that took place at this site detailed the uses of and meaning of Tecopa and the Hot Springs, as well as impacts presented by travelers along the OST. The following table (Table 4.23) is a breakdown of the interviews by tribe and gender.

Southern Paiute Tribe	Male	Female	Total
Pahrump	1	2	3
Chemehuevi	1	1	2
Interviews from Previous Studies	2	1	3
Total	4	4	8

Table 4.23 Interviews at Tecopa

Native American Comments

Traditional Uses of Tecopa

During the Low Level Radioactive Waste Transportation study (Arnold et al 1999), one Native American representative mentioned that his grandmother used to visit the hot springs and use it and the surrounding area for doctoring. After the doctoring ceremonies were completed, his grandmother and those with her would cover the springs and hide it from people because the springs are sacred healing waters.

When asked, “would Indian people have been attracted to this place, as it existed traditionally and how would they have used it,” Indian people responded”

- *The name of the Hot Springs was Kututspah, which means “hot water.” People would swim in the Hot Springs for healing, go in and pray, talk to the water. You could heal yourself; you didn’t need a doctor or healer. People lived near the spring. There are a lot of hot springs in Nevada—Beatty, near Reno, near Elko. Reno’s hot spring has been blocked.*
- *The hot springs were for bathing and healing. This place was sacred to the Indian people. It was a place in the middle of nowhere that had everything.*
- *The place had birds and animals that gathered at the water hole to drink and sleep. And the Indians would come to gather and hunt them. Since water was available they would camp and do special ceremonies.*
- *Indian people would have camped under the trees and would have needed the fresh water, shade, and space from the springs.*
- *You have to talk to the water to have it heal you.*
- *In the canyon behind us, there are lots of mesquites and mesquite beans. They were also attracted to this place because of screw beans. There are lots of mesquite in the gully; animals, chipmunks, get into the beans. Indians didn’t trade with the mesquite because they could give them away when they visited other people. When the other Indians came around, they gave things [such as] mesquite flour as a gift whenever they had extra.*
- *Lots of people lived here in the old, old days. Tecopa was named after Chief Tecopa, Tecopa in Paiute. It means “wild cat eye.”*
- *The Indians in this area was called Yagats and the ones over here north of the Providence, they were called Mowats...kinda like crazy people...Mowh. This one over here was Yagats. The only word I can think of is when the crying people...when you cry. So that’s what the kinds of Indians living here. They say they were related to the Southern Paiute people- the Pahrumps. The Yagats were one of the tribes that lost about eighty percent of their population because of the disease.*

Tecopa Place Features:

What resources would Indian people traditionally use at this site?

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	8	0	<ul style="list-style-type: none"> • <i>People used the hot springs. People would swim in them for healing, go in and pray, and talk to the water. You could heal yourself.</i> • <i>The Indians used the hot water springs and the river.</i>
Was this site a source for plants?	8	0	<ul style="list-style-type: none"> • <i>There is creosote and desert trumpet that people used.</i> • <i>In the canyon behind us, there are lots of mesquites and mesquite beans. They were also attracted to this place because of screw beans.</i> • <i>Cottontails, lots of sugarcane a little up the valley, in Shoshone. They used the cane as a bow, arrow, but not arrow weed, which is a bluish-grayish color and used to make arrows. They might have had arrow weed here, but it may be further towards Shoshone or Pahrump. They also found watercress here. Our Father took some in water and it grew to about four feet in spring.</i> • <i>The Indians would use all kinds of plants like cattail, sage, arrow weed, willow, mesquite, and different annual grasses.</i>
Was this site a source for animals?	8	0	<ul style="list-style-type: none"> • <i>Indian people used the rabbits and the chuckwallas.</i> • <i>There were cottontail rabbits, chuckwalla for medicine and food.</i> • <i>Birds, particularly ducks, were important—nice to eat, along with doves, quail. They [the Indians here] were too far away for deer, but there were some big horn sheep near Chaco Springs. No antelope, but there used to be some in Pahrump.</i> • <i>Hawks, quails, doves, rabbits, coyotes, mountain sheep, chuckwallas, and whiptail lizards were important to the Indian people here.</i> • <i>Rabbits, chuckwallas, snakes, birds, tortise, wild horses, deer, and coyotes were all used by the Indian people here.</i> • <i>You know during this time you have to remember that all those water holes like that there were a lot of turtles, they had a lot of jackrabbits where there was a lot to eat.</i>
Was there evidence of previous Indian use at this site?	8	0	<ul style="list-style-type: none"> • <i>We know Indian people used this area in the past through our stories.</i> • <i>The medicine plants, Tecopa Lake, the trail system were all evidence of previous Indian use.</i>
Did Indian people use the geological features at this site?	8	0	<ul style="list-style-type: none"> • <i>The hot springs were places of healing and ceremony.</i> • <i>There is the river, the springs, minerals, and the lake bed.</i>

Table 4.24 Tecopa Place Features

When asked, “are there places traditionally used by Indian people near by that are connected to this place,” Indian people responded:

- *Yes. Shoshone, Pahrump, Kingston, Goodsprings, Spring Mountains, Ash Meadows, and Indian Springs.*
- *Indians realized that the non-Indians had commodities that they could use, so the Indians would camp nearby to generate trading. The Amargosa River was a river much traveled to destinations deep within California and heavily traveled into Nevada.*



Figure 4.71 Southern Paiute Representatives and UofA Ethnographers at Tecopa

When asked, “is this place connected by traditional Indian Trails,” An Indian person responded:

- *Yes. There were song trails for hunting, traveling, resource gathering, warrior songs, marriage-love songs. There were trade trails like the Mojave Trail, the Chumash Trail, and the Salt Gathering Trails. There were also ceremonial trails like for vision quests, puberty rights, cleansing rights, and other pilgrimages. Indian people had trails to pine nut gathering areas, pow-wows, festivals, fishing, and hunting areas. They also had trails to other Indian settlements within Arizona, California, Utah, and Nevada. Plus they had the Honeymoon Trail.*

Impacts to Tecopa

When asked, “when non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what kinds of impacts did they have,” Indian people responded:

- *When the Spanish travelers came through [there were] lots of Indian people gone from here. There were only three survivors from here.*
- *In the old days, there were lots of people here. Travelers saw people growing things. The Indians were probably equally afraid of the travelers and probably, didn't recognize white people as human beings.*
- *[Indian people] couldn't practice religion and had to hide out.*
- *My son and Eugene used to walk through Emigrant Pass and they would always find Mexican or Spanish bayonets.*
- *The Indians had no choice but to share this wonderful place.*
- *Well it was a way stop for them [the travelers]...water. And they got another treat because there's hot water there and they could swim in the hot water. That was...I don't know what they thought about it but to the Indians it was a sacred place where they did their sacred things, healing and stuff like that. To the travelers of the Old Spanish Trail it was a just another watering hole. They stopped at different places like that and traded with the Indians that were at that area. They asked them what they were doing and what the weather was, how the road ahead was, and everything, they found out all they can.*
- *I believe really they (Indians) had their choice, it would have been a place where they wouldn't have shared their knowledge of this place, but they didn't have a choice. I don't think it really made a difference. If they had something to do there, they just worked around it. Just like today, the Indians still use it as a healing place, and as a place to do their spiritual things because of the non-Indians that are always there or whatever, most of the Indians that come from Pahrump and Las Vegas, they come down to use that area come down at like 2-3 o'clock in the morning. Because an Indian wouldn't go in and jump in that water without saying his prayer or thanking the Great Spirit.*

During the Low Level Radioactive Waste Transportation study (Arnold et al 1999), Indian people believed that after the arrival of non-Indian people, the spring was converted into a bathing hole which impacted traditional use of the site.

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the water at this site,” an Indian person responded:

- *The non-Indians stole the water and they didn't respect it so it went away.*

When asked, “what impact, if any, did the presence of non-Indian travelers have on the plants at this site,” Indian people responded:

- *The non-Indians didn't respect the plants and they went away.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the animals at this site,” an Indian person responded:

- *There were groups of horses that would migrate across the Mojave Desert, at least a thousand horses. They would stop here. They [the travelers] would round up the horses like cattle, and take them to old Mexico to sell. They would also sell Paiute women and Africans—crate the horses off like that.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the traditional use features at this site,” an Indian person responded:

- *They affected the acoustics.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the geologic features at this site,” Indian people responded:

- *The canyons were affected.*
- *It changed the Indians' physical world but not their spiritual world. Some of the natural environment is now being restored and more and more people are seeking balance and harmony in their lives in natural places like Tecopa.*

When asked, “were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *There was no respect for things and they went away or could not be used if contaminated by sickness.*
- *Some camps of Indians were attacked. Some died and they fled. Only to return hesitantly. If the non-Indian were always present, the Indians would stay away, but would continue to say prayers and offer offerings. This was because the Indians considered this place sacred.*

When asked “if Indian people could no longer use trails in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail did the Indian people find other trails to replace them and why,” An Indian person responded:

- *Once the Indians were plentiful and once the Indians realized that diseases were killing them, the Indians ran into the hills and chose to alienate themselves in the manner of their choosing. This was typical of the Chemehuevis. I know they went to the Teatchapi Mountain, San Bernardino Mountains, and the Kingston Mountains, along with the*

Providence Mountains. The Indians caught on fast that their presence was hampered by the flow of traffic and commerce on the Old Spanish Trail. The Indians would have to take 'backroad' trails or 'frontage' trails to travel from place to place. They chose these routes because of familiarity. The known water caches were available to them. That way may be rougher or longer but they would go that way to avoid stress. And if they saw other travelers on the same route they would run and hide or assess the situation and act accordingly.

When asked, "if Indian people could no longer use this place and nearby places in a traditional way because of the presence of non-Indian travelers on the Old Spanish Trail, did the Indian people go somewhere else to replace activities formerly done here, where did they go and why," Indian people responded:

- *They went to the surrounding areas of Shoshone, Pahrump, Kingston, Good Springs, Spring Mountains, Ash Meadows, and Indian Springs because there was power there and safe and abundant plants, medicine, and animals.*



Figure 4.72 The Tecopa Landscape

- *Activities or ceremonies would continue for a place like Tecopa Springs because the Indians knew of its value and would say prayers for it so that nothing would happen to them or their band. [If they had to go some place else] they probably went downstream or*

further into Nevada. They chose these places for survival measures. Life was changing and they were caught within the progression of it and the Indian was only an equal part of the actual solution. They survived it.

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

Southern Paiute representatives consider Tecopa to be culturally important. Paiute use of this area was documented by trail travelers. For Southern Paiutes, this area was not only a traditional settlement, but it was also used for medicine and doctoring activities.

Many travelers visited the Tecopa area during the OST period. One of the first non-Indian people to travel through this area was Antonio Armijo. In 1829, Armijo documented in his diary (Hafen and Hafen 1954) an encounter with an Indian settlement along “the river of the Payuches” upon leaving his camping site at Resting Springs. There is “little doubt” that this river is the Amargosa River. “There was no incident,” Armijo wrote, “because they [the people of the settlement] were docile” (Hafen and Hafen 1954: 164).

In 1844, John C. Fremont, in his journal, also describes what travel through this area was like, referencing a fresh water spring found along the boundary of the old dry lake (Steiner 1999: 169-170):

We traveled through a barren district, where a heavy gale was blowing about the loose sand, and, after a ride of eight miles, reached a large creek of salt and bitter water, running in a westerly direction, to receive the stream bed we had left. It is called by the Spaniards Amargosa-the bitter water of the desert. Where we struck it, the stream bends, and we continued in a northerly course up the ravine of its valley, passing on the way a fork from the right.

Gradually ascending, the ravine opened into a green valley, where at the foot of the mountains, were springs of excellent water. We encamped among groves of new acacia, and there was an abundance of good grass for the animals.

This was the best camping ground we had seen since we struck the Spanish trail. The day’s journey was about 12 miles.

Travelers documented the Tecopa area as being used by Southern Paiute people. The area was not only a traditional settlement but it was also used for medicine and doctoring activities. The Puha that emerges from a place can be used to heal individuals and small groups. The power of the place is often supplemented by the presence of medicine plants, minerals, winds, and even

vistas, which are naturally either attracted to a powerful place or are in some way apart of its creation. During the curing ceremony Puha is channeled from the spirit world by the Puh'aganti to the patient thus adding to the Puha that is in the healer, the materials used in the curing, and in the patient.

A healing place can contribute to a cure by being where the doctor takes the patient for the cure, or where the doctor goes to gain insight into the illness and the cure. Powell recorded a 1870s Shoshone account that at sunrise the doctor retires to the mountain, forest, or some other lonely place and communes with the Spirits of the gods, perhaps taking a potion or a sweat [bath] (Fowler and Fowler 1971).

The Tecopa Hot Springs and hot springs in general are viewed by Southern Paiutes and other Numic speaking peoples as powerful places used in the healing and purification of individuals and small groups. Hot springs are recognized as strong sources of healing Puha that can be seen in their structure and form such as the heat of the spring. A Puh'aganti is required to facilitate the cure. Powerful minerals like paint and obsidian are used in the ceremony.

Artesian springs usually have streams that create riparian ecosystems that support abundant plant life, representing a healthy balanced life and contributing plants for curing. Hot springs are also seen has being connected to each other. This connection was documented by Fowler (1992) for the Northern Paiutes, and is reflected in the Owens Valley Paiute origin story for all the hot springs in the region. According to an Owens Valley Paiute elder, during Creation "the sun fell...and it fell into the hot springs, the water over there [Coso Hot Springs], and made all the different hot springs all over" (Clark 1999: 52). The splash that resulted from the sun falling in the hot springs spread toward the north, east, and south. All of the hot springs in this region, are connected by a simultaneous creation as well as by underground waterways, which included Tecopa Hot Springs, Coso Hot Springs, Warm Springs, Tonopah Hot Springs, Oasis Valley Hot Springs, and Goldstrike Canyon Hot Springs.

Traditionally, Indian people approached the hot springs with a pretty stone. These were brightly colored and smooth. When the people arrived the stones were placed on the gravel floor of the hot spring making them beautiful, which both the people and the hot springs appreciated (Stoffle, Halmo, and Austin 1997).

Tecopa is also a part of the Southern Paiute ceremony to the afterlife. When a person passes away, their soul is sung into the next world through "the Cry," an important mourning ceremony that causes people to converge and sing the soul of the deceased along its thousand mile journey. It is through this song trail, called the Salt Song, that the deceased is able to travel to the afterlife (Stoffle et al 2000). The location of the spirit person traveling the trail to the afterlife is marked at the end of each set of songs. The living people singing the songs know the spirit person's progress. It also notifies the living that the afterlife is being achieved (Stoffle, Halmo, and Austin 1997). A Salt Song singer from the Chemehuevi Paiute Tribe described the Salt Song trail as:

The Salt Songs talk about, sing about sacred sites on 1000 mile journey begin at rock cave at fork of Bill Williams river, all the deep sacred sites between there

and a circle at Chemehuevi Valley, Mojave Valley, Hualapai, Grand Canyon, Utah, Nevada, and California, and the different sacred sites they visited in the journey and things they did explains the whole history of our people with life and the connections we have with the elements (The Salt Song Project).

The Salt Song is “used in the solemn ritual singing commemorating the demise of one of its owners” (Laird 1976: 17). Because it is associated with the passage of an individual to the afterlife, Southern Paiute people believe that the Salt Song is very sacred and it is not to be taken lightly. In fact, the Salt Song can come to a person at anytime no matter what they are doing. A Southern Paiute Salt Song singer added:

They come to you anywhere, kitchen, bathroom, and you think I'm not supposed to sing these, but when they come so clear, you just go with it. You say a prayer that you're not doing this with any kind of bad feeling. My grandma would say something bad is going to happen, lo and behold those songs come to my ear and sometime a funeral will happen (The Salt Song Project).

The Salt Song Trail has to do with the travels of two sisters. They are *Yárik*, who was a wild goose, and another bird called *Avínankawats*, which was a small water bird, similar to a duck (Kelly 1933). Kelly (1933) explains the journey of the two sisters in her fieldnotes; she documented that the sisters:

...lived at the mountain called *Áyai*, between Searchlight and Fort Mohave. [The sisters] traveled to Ft Mohave then came back, but on the other side of the river. [The sisters] crossed on the other shore to *Kútsakaib* (Grey Mountain). Thus these songs went to Ft Mohave, but turned and came back; this is where the Mohave lost the songs; they do not have them. The sisters came up the river on the east side to a place called *Mowávçt* (a mountain unspecified). [They] crossed the Colorado at the junction of the Virgin; [they] went up to the Salt Cave there and named it. From there [the sisters] came to Charleston Peak then to Ash Meadows; then to the town of Shoshone, to the salt lake below the town called *Paníyí*; thence straight to Old Woman mountain, then down towards Imperial Valley; went almost to Blythe (Kelly 1933: 18-106).

The sisters crossed the river one last time and came up the east side and arrived just before the sun rose at the *Kwi'nava* Mountains. The mountains had a large cave for the sisters to stay during the daytime, because they did all of their traveling at night (Kelly 1933). According to Kelly's informants, the sisters “sang en route” and as they were “traveling along, [they] named everything they saw- the mountains, water, everything,” (Kelly 1933: 18-106).

Other noted scholars such as Carobeth Laird (1976) have documented portions of this song trail. Among the places described are Dumont Dunes, the Spring Mountains, the Las Vegas Valley, and the Grand Canyon, (Laird 1976). The places marked along the Salt Song trail are all important and interconnected.

Topographically, the Salt Song Trail marks important places by the end of various songs or sets of songs. Indian people say that the song is about a journey. It describes physical things, but the journey itself is spiritual. While on the journey, a person's spirit will visit a sacred site and then travel to the next one along the song trail. The song demonstrates the strong personal connection that a person has with the land, elements, and resources. When a person sings the song, the connection is made. For Indian people, the song is about healing, ceremony, and the sacred.

There are other trails, like the Salt Song trail, that do not have a physical, earthly location. One example is tobacco smoke. As it rises into the air it furnishes a non-physical trail between humans and the spirits (Miller 1983). In addition, many physical trails in the Great Basin are considered sacred too. According to Miller (1983), power for life is concentrated in living things, like groups of humans or animals. As these living move along trail systems, power goes with them, and this makes the trails sacred. It is the flow of life that makes physical and spiritual trails sacred.

4.14 DUMONT DUNES

After visiting Tecopa, OST travelers would pass by Dumont Dunes on their way to Salt Spring (Map 4.14 and Map 4.15). Located twenty-two miles south of Tecopa east of Highway 127, Dumont Dunes is surrounded by Ibex Wilderness to the northwest, Kingston Range Wilderness to the north and northeast, and Salt Creek Hills Area of Critical Environmental Concern to the south. The dunes, which are at least 375 to 400 feet thick and almost 12 miles long (Sharp and Glazner 1997; Spear 2006), lie southeast of the Amargosa River and reach a height of 1200 feet at Competition Hill, its highest point. This area covers about 10,500 acres and is managed by the Bureau of Land Management.



Figure 4.73 Dumont Dunes

Geology and Ecology

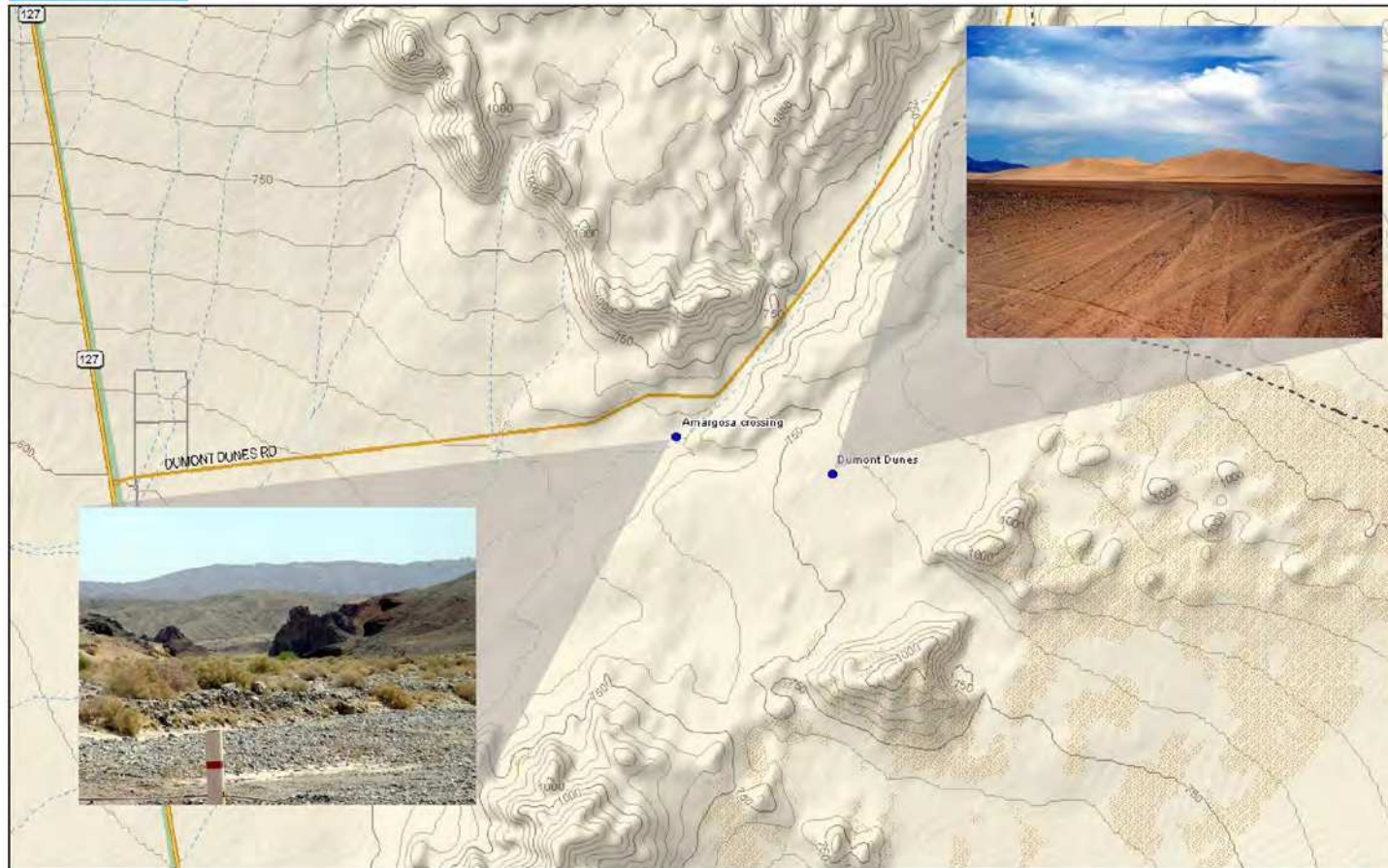
The Dumont Dunes date between the mid-Holocene (Morrison 1964; Pavlik 1989; Smith 1982; Lancaster 1988a,b; 1989; Dohrenwend et al. 1991) and the last high stand of Lake Manly, about 18,000 years ago (Spear 2006). Many types of dunes exist in the dune field including barchans³, transverse⁴, star⁵ and longitudinal⁶ dunes.

³ This is the most common dune form, which forms under winds that blow from one direction. Also, called crescentic.

⁴ A transverse dune is horizontal to the prevailing wind, probably caused by a steady buildup of sand on an already existing minuscule mound.

⁵ Radially symmetrical, star dunes are pyramidal sand mounds with slipfaces on three or more arms that radiate from the high center of the mound. They tend to accumulate in areas with multidirectional wind regimes. Star dunes grow upward rather than laterally.

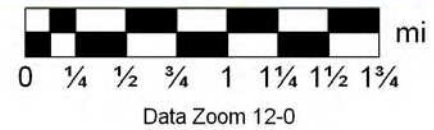
⁶ Longitudinal dunes elongate parallel to the prevailing wind, possibly caused by a larger dune having its smaller sides blown away. These dunes are sharp-crested and thought to develop from barchans if a change of wind direction occurs. On longitudinal dunes, the slip face develops on the side facing away from the strong wind, while the slip face of a barchan faces the direction of movement.



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Map 4.14 The Dumont Dunes Area

The Dumont Dunes field is one of several sand dune areas in the western United States that emits loud, low frequency sounds that result from impacts to the dunes and moisture found within the particles. A sand dune is said to be “booming” when avalanches caused by wind or earthquakes occur. These avalanches occur on the lee face of the dune when they are generally at an angle close to the natural angle of sand deposition. When an avalanche occurs, the booming sound can last for over a minute and the sounds also may harmonize with each other. Another sound that occurs in Dumont Dunes is described as “burping.” When sand at the top of the dunes has more moisture than the sand below and the sand below is disturbed, the upper sands make a “burping” sound. These upper sand particles are well-sorted and have a grain diameter between 0.2 - 0.4 mm (Brantley et al. 2003).

Sand dunes habitats are large patch ecological systems, which form large areas of interrupted cover. Large patch systems are associated with specific environmental conditions that are less common or less extensive in the landscape. Since sand dunes are eroded and reformed constantly by prevailing winds, plant establishment is difficult. While plant cover is sparse, the lower part of the dunes can hold water for long periods below the surface, allowing shrubs to successfully root and persist through long droughts (Nachlinger et al. 2001). Sand dunes of the Mojave Desert have a taxonomic composition different from the desert as a whole, and sand movement has resulted in vegetation having a distinctive life form spectrum. Some dune flora appear to be restricted edaphically to the dunes and patches of sand habitats (Pavlik 1985).

Scientific Name	Common Name
<i>Ambrosia dumosa</i>	burro-weed
<i>Atriplex hymenelytra</i>	desert holly
<i>Atriplex polycarpa</i>	allscale
<i>Carex</i> spp.	sedge
<i>Chamaesyce</i> spp.	prostrate spurge
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	brittle spineflower
<i>Chorizanthe rigida</i>	spiny-herb
<i>Cryptantha intermedia</i>	cryptantha
<i>Distichlis spicata</i>	saltgrass
<i>Heliotropium curassavicum</i>	heliotrope
<i>Hymenoclea salsola</i>	cheesebush
<i>Larrea tridentata</i>	creosote bush
<i>Oenothera deltoides</i>	devil’s lantern, basket evening primrose
<i>Polypogon monspeliensis</i> *	annual beard grass
<i>Prosopis glandulosa</i>	honey mesquite
<i>Salsola tragus</i> *	Russian thistle, tumbleweed
<i>Suaeda moquini</i>	bush seepweed
<i>Tamarix ramosissima</i> *	tamarisk, saltcedar

* non-native species

Table 4.25 Plants Common to the Mojave Desertscrub Biotic Community

Dumont Dunes is surrounded by the Mojave desertscrub biotic community, which has an abundance of creosote (*Larrea tridentata*). Communities dominated by creosote usually occur below 4,000' elevations but on the northern end of their range, these plant communities can be found at 5,000' on south facing slopes (Brown 1994). The predominant plants of the

communities adjacent to Dumont Dunes were identified in a survey for off-highway vehicle impacts (Table 4.25) (SERG 2002).

Family Scientific Name	Common Name
Asteraceae	
<i>Baileya pleniradiata</i>	Woolly desert marigold
<i>Dicoria canescens</i> subsp. <i>canescens</i>	Desert twinbugs
<i>Machaeranthera leucanthemifolia</i>	Whiteflower tansyaster
<i>Palafoxia arida</i> var. <i>arida</i>	Desert palafox
Boraginacea	
<i>Tiquilia plicata</i>	Fanleaf crinklemat
Brassicaceae	
<i>Dithyrea californica</i>	California shieldpod
Euphorbiaceae	
<i>Chamaesyce micromera</i>	Sonoran sandmat
<i>Chamaesyce ocellata</i>	Contura Creek sandmat
<i>Chamaesyce parryi</i>	Parry's sandmat
<i>Chamaesyce vallis-mortae</i>	Death Valley sandmat
<i>Croton californicus</i> var. <i>mojavensis</i>	California croton
Fabaceae	
<i>Astragalus didymocarpus</i> var. <i>dispermus</i>	Dwarf white milkvetch
<i>Astragalus lentiginosus</i> var. <i>borreganus</i>	Borrego milkvetch
<i>Astragalus lentiginosus</i> var. <i>variabilis</i>	Freckled milkvetch
<i>Astragalus sabulonum</i>	Gravel milkvetch
<i>Lupinus shockleyi</i>	Purple desert lupine
Loasaceae	
<i>Mentzelia longiloba</i>	Adonis blazingstar
Nyctaginaceae	
<i>Abronia pogonantha</i>	Mojave sand verbena
<i>Abronia villosa</i> var. <i>villosa</i>	Desert sand verbena
<i>Tripterocalyx micranthus</i>	Smallflower sand verbena
Onagraceae	
<i>Oenothera deltoides</i> subsp. <i>deltoides</i>	Birdcage evening-primrose
Polemoniaceae	
<i>Eriastrum densifolium</i> subsp. <i>mohavense</i>	Giant woollystar
Polygonaceae	
<i>Eriogonum insigne</i>	Ladder buckwheat
Liliaceae	
<i>Hesperocallis undulata</i>	Desert lily
Poaceae	
<i>Panicum urvilleanum</i>	Desert panicgrass

* Low woody or herbaceous plant with perennating tissue within 10 inches of soil surface.

** Herbaceous perennial or biennial plant with perennating tissue at the soil surface.

Table 4.26 Plants of Mojave Desert Dunes and Sand Habitats

The dunes themselves support a variety of plants (Pavlik 1985, 1989) and animals (Hall 1946; Brown 1973) that have special adaptations that allow them to survive the unique challenges of this desert environment (Brussard, Charlet, and Dobkin 2000). Species lists for the

dunes are sparse; however, those for flora focus on the Amargosa River (Table 4.26). The plants found in the dunes are psammophytic, meaning they tolerate or grow best in fine to medium sand (Pavlik 1989). The psammophytes of Dumont Dunes are predominantly annuals and geophytes, plants with storage organs that developed in response to adverse climatic conditions such as bulbs (Pavlik 1985).



Figure 4.74 Dumont Dunes and the Amargosa Riverbed

Summary of Interviews

UofA ethnographers interviewed Pahrump Paiute tribal representatives and four interviews were conducted on the use and meaning of Dumont Dunes and the impacts the site endured through movement along the OST. Table 4.27 details the breakdown of interviews by tribe and gender.

Paiute Tribe	Male	Female	Total
Pahrump	2	2	4
Chemehuevi	0	0	0
Interviews from Previous Studies	1	0	1
Total	3	2	5

Table 4.27 Interviews at Dumont Dunes

Native American Comments

During interviews at this site, Pahrump Paiute representatives believed that Dumont Dunes and all other sand dunes are alive and can communicate with a person. One elder said that this place talks to you; especially at night the dunes will sing to you. Another elder commented that they heard stories of the sand dunes (both Dumont Dunes and Big Dunes- a sand dune near

Ash Meadows) engulfing people when they tried to walk on them. The dunes would do this if they did not like you or if you posed a threat. The elders interviewed believed that travelers along the OST would have been swallowed up by the sand if they attempted to walk on it.



Figure 4.75 The Amargosa River Bed

In 1999, a Native American rapid cultural assessment (Arnold et al. 1999) study was funded by the Department of Energy to study the potential impacts of the intermodal transportation of low level radioactive waste would have on cultural significant sites. Dumont Dunes was visited during this study. The following statements were from tribal representatives during that study. These statements are meant to complement recent interviews and further enhance the complex meaning and cultural centrality of Dumont Dunes to Southern Paiute people.

One representative said that:

- *The sand dunes were like the mother because the children were playing on her. Her patience was enduring and she was very peaceful. She was laying across the desert floor, graceful as she can be. It is a conversion place, sand dunes were built from the wind and the elements, from the four directions, and they created sand dunes. They are ever changing and not static; we call them copycat changing mountains. Mountains change for the shamans (as we believe) in the Paiute tradition, and they are never the same (Arnold et al. 1999: 50).*

Another representative added:

- *The explorers, who came before, documented the ever-changing nature of sand dunes. They change to look beautiful and if they don't want you in the area, they change to fool you. Certain mountains play tricks on you and sand dunes certainly do. Their power is elusive and it can fly away at will. In a sense, the sand dunes and the mountain peaks trade places so it is a highly complex system ever evolving. It probably has water babies and the Amargosa River flows by there and the other one that comes from the Silurian Valley. At this place, it has, we feel, a hidden entity. Everything there is controlled and its voice is imperative and a mystical place. I will go a step further and say its soul belongs to the Southern Paiute. The mountain ranges encase, care, and give its will to these people. The area is important because it is a boundary that separates the traditional peoples and tribes in the Southwest. This is the Pacific area and Arizona is the Southwest and the boundary goes to both places. The wind always blows there and goes to that region; winds come from all directions to form a windy place. The little people live in the sand dunes (Arnold et al. 1999: 50).*

Traditional Uses of Dumont Dunes

When asked, “would Indian people have been attracted to this place as it existed traditionally and how would they have used it,” Indian people responded:

- *The dunes were a landmark that could be seen from many areas and are described in the Mountain Sheep songs. The dust from the sand was used during Creation to make the Milky Way with the assistance of the Coyote. U'arum, a rain maker from the west, used the dunes to create windstorms so that the storm could arrive when needed. When at the dunes you can observe Mount Charleston and the Spring Mountain Range in Pahrump and the Kingston Range to the south where Indian people used to live.*
- *Nearby is a boundary where the “Kahweets” used to live until they went west. Along time ago there was a war in the area between the Southern Paiutes and the Agua Caliente who were driven back to Palm Springs, where they live today. They say when the wind blows you can hear the old ones talk about those days and it will guide you to things or warn you about things to happen.*
- *Yes. Indians knew Big Spirits lived here. The place is a reminder to the people that the spirit within it was waiting and watching and that he will give and show you that he's still there.*
- *Indians considered it a forbidden area. There were stories about water babies living here. Indians avoided it. They knew it was a secret place, as a story land place. A place about stories. Places like this one are named by the Great Spirit. Medicine people who know the given name would not tell—it's a secret place, “Tu-win-na-cut,” sacred area.*
- *[This place is] in stories, story land. There are water babies and Great Beings here.*

Dumont Dunes Place Features

When asked, “What resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	4	0	<ul style="list-style-type: none"> • <i>The dunes provided water from the Amargosa River. The river could hide from people by being covered by the sand.</i>
Was this site a source for plants?	4	0	<ul style="list-style-type: none"> • <i>The dunes have plants that are used for food for the people and animals and for doctoring. The desert trumpet root is used for medicine, while the stems are used for food and whistles. The bulb of the plant was used to smoke tobacco. Other plants were creosote, watercress near the river that is found behind the dunes.</i>
Was this site a source for animals?	4	0	<ul style="list-style-type: none"> • <i>There is a small flea that lives in the dunes. People don't pay attention to it but it is extremely important. The rattlesnake and his brother the sidewinder live here too. The old people could tell by its tracks what direction he was going. Both these brothers were responsible for watching over and protecting the dunes. The cottontail and jackrabbit live here too.</i> • <i>Deer, tortoise, rabbit, coyote [all lived here].</i>
Was there evidence of previous Indian use at this site?	4	0	<ul style="list-style-type: none"> • <i>There is evidence that Indian people used the area because of the plants and animals that are still here. Most people think of this area as a barren or that it is only good for recreational vehicles. A long time ago, pioneers came through this area on their way to California and to the San Bernardino Mountains. They used to follow the old Indian trails that were used for trading and for trips for religious and ceremonial events. Then and even today Indian people see it as a very important and useful area that helps create balance of the world and plays a key role in creating different types of weather.</i>
Did Indian people use the geological features at this site?	4	0	<ul style="list-style-type: none"> • <i>This area is not only a very distinctive landmark that was used by Indian people a long time ago but is still used in prayers and songs. The area provides solitude that is needed when talking to the land and the sky. It is a place where you can listen to the wind and hear it talk to you.</i>

Table 4.28 Dumont Dunes Place Features

When asked, “What resources would Indian people traditionally use at this site,” Indian people responded:

- *Avawatz are nearby—traditional boundary. Avawatz is a traditional Chemehuevi word meaning “many,” like “mucho” means to the Spanish—“lots.”*
- *Nearby is sage, creosote, salt cedar, brittle brush.*
- *[This place is] in stories, story land.*

When asked, “Are there places traditionally used by Indian people nearby that are connected to this place,” Indian people responded:

- *The Mojave Trail, trading trail with Mojave Indians.*
- *San Bernardino Mountains, southern boundary for the Chemehuevis*
- *Southern Paiute boundaries to the north and Paiutes to the west—connected by customs, traditions, and language.*
- *The Avawatz are nearby, and the Amargosa River—[they were a] traditional boundary.*

Impacts to Dumont Dunes:

When asked, “When non-Indians began traveling through this place, did their presence affect the Indian people who used this area and what kind of impacts did they have,” Indian people responded:

- *The Indians realized the non-Indians lived in a whole different world and that nothing seemed important to them. This rattled the Indians. They took offense and passed it around that the non-Indians were crazy. This made them leery and some Indians preferred to keep distance between them, while other Indians violated the non-Indians laws and created heated man-hunts.*
- *When this occurred, the Indian always suffered the worst of it.*

When asked, “What impacts, if any, did the presence of non-Indian travelers have on the plants at this site,” Indian people responded:

- *They polluted it.*
- *Well, I think the Dunes, at that time, other than being a spectacular site to look at, wouldn’t have been too much of a—too much interest to any of the travelers...It would be just a location beside the trail...consequently, they concentrated more on the river that ran along side of it.*

When asked, “What impacts, if any, did the presence of non-Indian travelers have on the plants at this site,” Indian people responded:

- *Animals trampled and ate the landscape.*
- *Nearby is sage, creosote, salt cedar, brittle brush.*

When asked, “What impacts, if any, did the presence of the non-Indian travelers have on the animals of this site,” Indian people responded:

- *Animals were killed for food and trophy hunting.*

When asked, “What impacts, if any, did the presence of non-Indian travelers have on the traditional use features of this site,” Indian people responded:

- *They didn’t respect the ecosystem and the trail brought pollution to the water and diseases.*

When asked, “What impacts, if any, did the presence of non-Indian travelers have on the geological features of this site,” Indian people responded:

- *They had no regard for the Avawatz [Mountains] or the Amargosa River. The non-Indians could not have known the significance of certain landmarks.*

When asked, “Were nearby connected Indian places impacted by the presence of non-Indian travelers on the Old Spanish Trail,” Indian people responded:

- *It changed a lot. The non-Indians thought the Indians had bad intentions. The non-Indians started shooting, the Indians would rebel and the non-Indians would retaliate. This led to many confrontations. The military started coming in after the civil war ended to protect the settlers/colonists.*

When asked, “If Indian people could no longer use this place and nearby places in a traditional way because of the presence of Non-Indian travelers on the Old Spanish Trail, did the Indian people go somewhere else to replace activities formerly done here, where did they go, and why,” Indian people responded:

- *Yes, to the Providence, Potosi, Kinston, Tehatehapi, and San Bernardino Mountains. Also, to the Colorado River. All had trails coming to and from them and this was their established system. These places are settlements already established and the Indians retreated to these places for livelihood.*
- *It wasn’t as if the OST devastated the Indian, they had other trails within their compound that sufficed them well. They lived here for thousands of years and knew the trail system well.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

Dumont Dunes is recognized as an important landmark both physically and spiritually. Paiute people have discussed the dunes' role in Creation of the Milky Way and how it is associated with spiritual beings such as Water Babies. Additionally, the dunes are described in the Mountain Sheep and Salt Songs. The ethnographic comments detail the importance of these songs and the importance of sand dunes to Indian people.

According to a Southern Paiute representative, Dumont Dunes is described in the Mountain Sheep songs. The mountain sheep song is a song of movement, following the hunter and his quarry as they travel, and there are two types (Laird 1976).

One type is called *Naghuv^wiyavi*, and is a hereditary song passed down through families, from father to son. The song defined a man's kinship and his hunting territory; there are many different versions of each song, and they reflect a specific territory. Hunting rights were in general restricted to the land traversed by an individual's song, except when he accompanied others who visited different ranges. In the southern portion of the Southern Paiute nation, the song covers territory that is located west of the Colorado River (Laird 1976).

Traditional mountain sheep hunting ranges were described by Laird as lying in strips. These strips include the land from the top of one mountain range through the adjacent valley to the top of the next mountain range. The distance between the mountain ranges is described as *cuukutiiravi*, which literally translates to "one desert" or one "Indian mile" (Laird 1976: 11). This phrase was later adapted to mean a "White man's mile," which is a considerably smaller area than had originally been conveyed by its usage. Each strip is said to extend to the ocean. In the southern hunting ranges there is one exception to this landscape layout and that is the boundaries of the Mountain Sheep song of Whipple Mountain, which traced a route that eventually brought it back to its point of origin (Laird 1976).

In Isabelle Kelly's field notes for the Las Vegas area, she noted that the Las Vegas version of the Mountain Sheep Song starts from Coachella Mountain, near Los Angeles. The song travels to San Bernardino Mountain, or *Ukwánivaxant*. Then the song travels to *Timpisaxwats* and *Kaiba* (these names have no current translation), and arrives at Mount Charleston in the early morning hours. Kelly believed that there are over 200 different versions of this song, every version lasting all night and ending at sunrise. The function of these songs was to bring sheep to the hunting grounds (Kelly 1933).

The second type of Mountain sheep song is sung at mourning ceremonies, and unlike the first type they did not bring sheep. Laird states that the use of the mountain sheep song in a Cry

ceremony was restricted to those individuals belonging to the group; in this setting, the song can only be sung by one who “owned it legitimately” (Laird 1976). Despite differences in words and rhythm, sheep singers commonly possessed both songs.

Dumont Dunes is also located along the Salt Song Trail. The Salt Song trail is a thousand-mile journey a person’s soul takes before reaching the after life. In Kelly’s field notes, she describes the Salt Song journey (Kelly 1933: 18-108):

The song starts across the river from Áyai at a place called Mansóraiiv; you can see this place from Muvi; it is not a mountain. They crossed the river at Mansóraiiv and traveled south and passed a dry lake and continued downstream to Tíáro-watapîts (spotted lizard-back), a place near Needles (north of Needles, near Beaver Lake). They crossed the river there and saw large red ants. They named these red ants calling them three names (three songs). They saw also Xśnsawants, a bird, which was rolling in the ashes (bird was white). The song goes this way. Then they turned around and traveled north. On the return route they crossed the river at Kutca-kaib (Gray Mountain) across from Muvi. (The song jumps from one place to another; a song is called for at every stop and at every, naming). Here they named a grass called fîsúv, some kind of desert grass. And they named the sand hills. Then they passed on the other side of a mountain called Msxwabut and named a spring there, which was called Aysnta-payampixant (tall cane spring) [emphasis added].

Sand dunes are unique landscape features and across North America, native peoples have built special relationships with them. The Southern Paiutes interact with sand dunes, like Big Springs and Coral Pink Sand Dunes, as living spiritual places (See Figure 4.76). There is some evidence that Southern Paiute people interacted with sand dunes as spiritual places mentioned as stopping places along song trails (the Salt Song and the Mountain Sheep Song).



Figure 4.76 Big Dunes, Nevada and Coral Pink Sand Dunes, Utah

The full extent of Southern Paiute interaction with sand dunes has not fully been explored; however, we offer two examples from the Great Lakes region as representative of the kinds of interactions Indian people have with sand dunes. The first example of ceremonial use of sand dunes is the Indiana Dunes, which are located along the southeastern edge of Lake

Michigan, along the Indiana coast. The Potawatomi of Michigan and Indiana traditionally use these sand dunes. In Potawatomi culture, it is common for both men and women to travel to the top of Indiana Dunes for fasting. The dunes are also traditionally involved in healing and learning.

In the Great Lakes region, sand dunes are associated with ceremony and vision seeking. Sleeping Bear Dunes along the coast of Lake Michigan (Figure 4.77) is an important ceremonial area for the Ojibway. The dunes function in a similar way to mountain peaks and other high points, and are used in vision seeking and fasting. The fasting that occurred on the sand dunes could take place anytime of year, but winter fasting was not common. During a UofA cultural resources study, one consultant noted that “people came from other areas to know themselves here at the dunes” (Zedeño et al. 2001: 354). This consultant also mentioned the Shaking Lodge ceremony, during which a medicine man would call upon the spirit of the sick person to travel to the medicine man in the dunes. Then the second medicine man would send the spirit back cured. Weddings and naming ceremonies were also commonly practiced on the dunes; sand was collected to be used in ceremonies; and before traveling on Lake Michigan, for example, a ceremony at the dunes was performed (Zedeño et al. 2001).



Figure 4.77 Sleeping Bear Dunes

The dunes were also seen as a protector and provider, particularly beginning in the late 1800s. The Ojibway water drum, for example, was used in ceremonial activity and was an important part of traditional Ojibway life. The drum, however, was also viewed as a threat by Euro-Americans. The United States government during this period vigorously banned American Indian ceremonies and confiscated religious paraphernalia; in order to save their drums, the Ojibway took them to Sleeping Bear Dunes and buried them deep in the sand. The dunes sheltered the drums for many years; recently, the dunes have begun to reveal the drums to the people. The return of the drums is seen as a gift from the dunes to the Ojibway people.

4.15 SALT SPRING

Salt Spring is located to the southwest of Dumont Dunes, near where the Amargosa River crosses Highway 127. Salt Spring is situated at an elevation of 572 feet above sea level, where the water from the Silurian Valley meets the Amargosa River before it flows into Death Valley (Steiner 1999). Travelers would visit this spring to get water before trekking across the last 200-mile leg of their journey to Los Angeles.

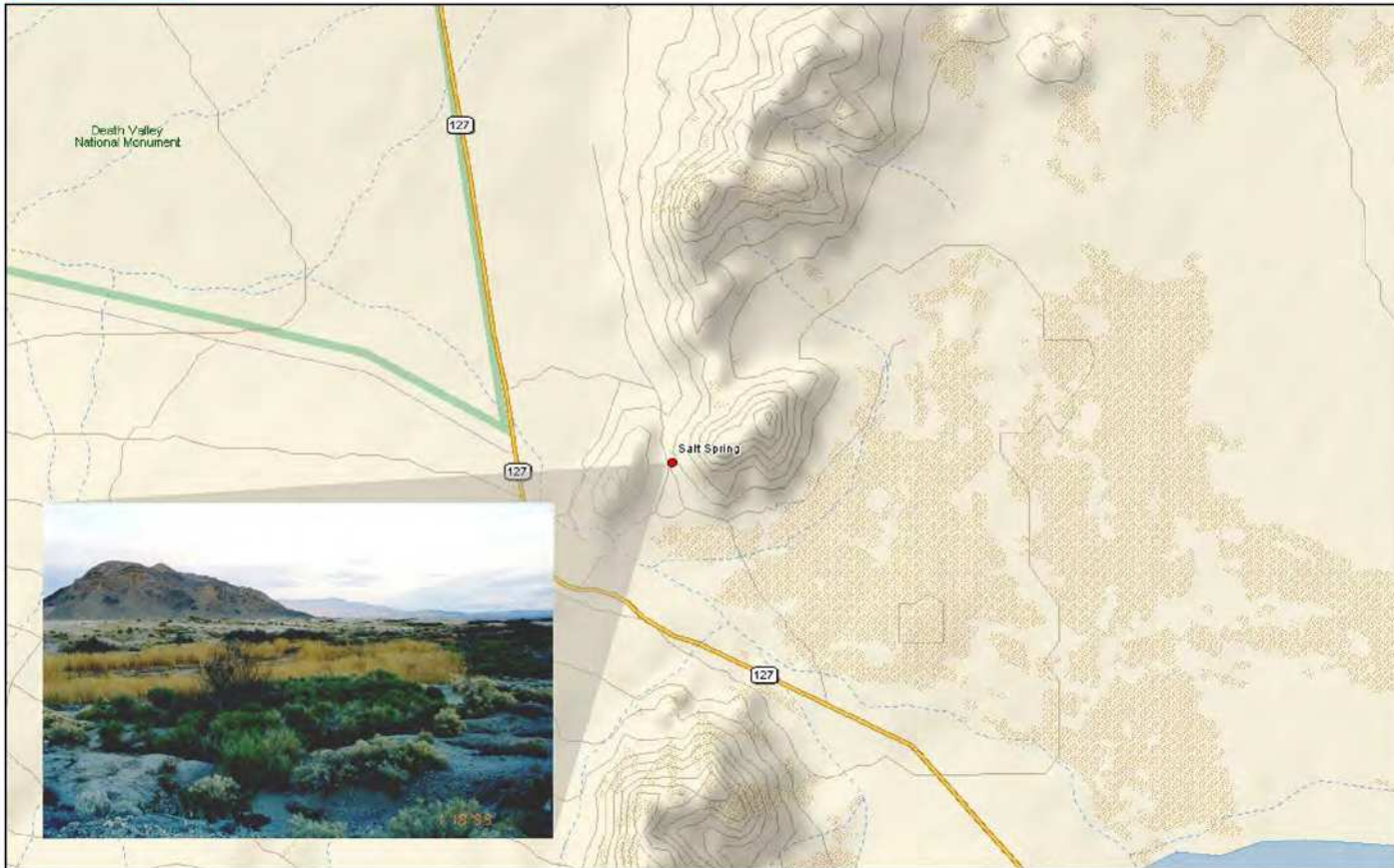
Geology and Ecology

Salt Spring's geological composition reflects the nature of the environment in this part of California. The extreme heat causes water to evaporate quickly, leaving a high concentration of sodium and magnesium. Water run-off would wash these deposits into the Amargosa River and into the spring (Steiner 1999). Even though there are mineral deposits in the spring, the water is palatable when in need of temporary relief. However, drinking large amounts of this water would cause a person or animal to become ill.



Figure 4.78 Salt Creek

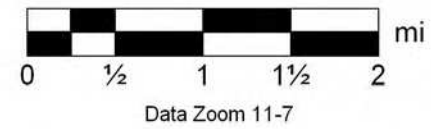
Salt Spring is part of the Mojave desertscrub biotic community. It is the smallest of the desert land biomes in North America and is the intermediate between the Great Basin and Sonoran desertscrub. Mesquite trees (*Prosopis* spp.) surround the spring in a small riparian area (Brown 1994). The spring is part of the Salt Creek Hills Protected Area, which has been designated an Area of Critical Environmental Concern (ACEC). This designation allows the BLM to highlight special management that is required to protect important natural, cultural, and scenic resources, or to identify natural hazards. This designation prevents motorized vehicles from accessing the site and protects the riparian habitat.



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Map 4.15 The Salt Spring Area

Mesquite is a traditionally important, dominant plant at the spring. Mesquite, *o'pimb* or *'opimpi* in Paiute (Rhode 2002), was not only used as food, shelter, and a favorite fuel for fires, but its roots were also used in the construction of cradle boards and as musical instruments and its leaves were chewed to treat bee stings (Arnold et al. 1999). Indeed, the area itself was found to have important ceremonial features in its natural acoustics and the constriction of the stream by the surrounding mountains; Indian people would have gathered here for ceremonies (Arnold et al. 1999).



Figure 4.79 Honey Mesquite (Mark W. Skinner @ USDA-NRCS PLANTS Database)

Animals are also traditionally important to this site. Though table 4.29 gives an idea of the diversity of animals native to this area, with species of special concern noted by an asterisk, we will here discuss only one important encounter between Native American consultants and an animal at Salt Springs in 1999, during a study of the transportation of low-level radioactive waste. Please refer to the ethnographic comments of the Dumont Dunes site description for further discussion of the ethnobotany of this area. At Salt Springs, Native American consultants were greeted by a poorwill acting out of character. The poorwill is described as a “bird of mystery,” generally hiding during the day with its “mottled brown and gray” camouflage and sleeping either on the ground or on horizontal branches (Kaufman 2000: 400). Poorwills differ in hunting techniques from the closely related nighthawks in that they sit on open ground and wait to see something in the sky before it “flutters up, usually no higher than ten feet, and catches the insect with its mouth.” Poorwills prefer to hunt by moonlight; the lights of city streets often extend their activity into the early mornings (Kaufman 2000: 401). However, they are perhaps best known for their nocturnal songs commonly heard in the desert at night. Poorwills are also the only North American birds that hibernate, disappearing during the winter and sleeping for days or weeks on end. In the account of the first recorded hibernating poorwill, found in the Sonoran Desert, a man tried to “find signs of life” by catching the bird’s breath on a mirror. Ten

days later the bird still had not moved; however, when the man touched the poorwill, it “winked” at him (Kaufman 2000: 401).

Table 4.29 Animals of Salt Spring and Amargosa River Area

Scientific Name	Common Name
Mammals	
<i>Canis latrans</i>	Coyote
<i>Taxidea taxus</i>	Badger
<i>Lynx rufus</i>	Bobcat
<i>Urocyon cinereoargenteus</i>	Gray Fox
<i>Sylvilagus auduboni</i>	Desert Cottontail
<i>Lepus californicus</i>	Black-tailed Jackrabbit
<i>Ammospermophilus leucurus</i>	White-tailed Antelope Ground Squirrel
<i>Spermophilus tereticaudus</i>	Round-tailed Ground Squirrel
<i>Thomomys bottae amargosae</i>	Amargosa Pocket Gopher
<i>Thomomys bottae</i>	Botta Pocket Gopher
Birds	
<i>Vireo bellii pusillus</i>	Least Bell's Vireo
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo
<i>Dendroica petechia</i>	Yellow Warbler
<i>Empidonax traillii</i>	Willow Flycatcher
<i>Myiarchus tyrannulus</i>	Brown-crested Flycatcher
<i>Pyrocephalus rubinus</i>	Vermillion Flycatcher
<i>Icteria virens</i>	Yellow-breasted Chat
<i>Guiraca caerulea</i>	Blue Grosbeak
<i>Piranga rubra</i>	Summer Tanager
<i>Piranga ludoviciana</i>	Western Tanager
<i>Oreoscoptes montanus</i>	Sage Thrasher
<i>Vermivora virginiae</i>	Virginia's Warbler
<i>Circus cyaneus</i>	Northern Harrier
<i>Lanius ludovicianus</i>	Loggerhead Shrike
<i>Toxostoma crissale</i>	Crissale Thrasher
<i>Asio otus</i>	Long-eared Owl
<i>Falco mexicanus</i>	Prairie Falcon
<i>Corvus corax</i>	Raven
<i>Cathartes aura</i>	Turkey Vulture
<i>Bubo virginianus</i>	Great-horned Owl
<i>Phalaenoptilus nuttallii</i>	Common Poorwill
Lizards	
<i>Uma scoparia</i> ^{††}	Mojave Fringe-toed Lizard
<i>Crotaphytus bicinctores</i> [†]	Great Basin Collared Lizard
<i>Gambelia wislizenii</i> [†]	Long-nosed Leopard Lizard
<i>Coleonyx variegatus variegatus</i> [†]	Desert Banded Gecko
<i>Dipsosaurus dorsalis dorsalis</i> [†]	Desert Iguana
<i>Sauromalus ater</i> [†]	Chuckwalla
<i>Callisaurus draconoides rhodostictus</i> [†]	Western Zebra-tailed Lizard
<i>Phrynosoma platyrhinos calidiarum</i> [†]	Southern Desert Horned Lizard
<i>Sceloporus magister uniformis</i> [†]	Yellow-backed Spiny Lizard
<i>Sceloporus occidentalis longipes</i> [†]	Great Basin Fence Lizard
<i>Urosaurus graciosus</i> [†]	Long-tailed Brush Lizard
<i>Uta stansburiana</i> [†]	Side-blotched Lizard
<i>Aspidoscelis tigris tigris</i> [†]	Great Basin Whiptail
<i>Xantusia vigilis vigilis</i> [†]	Yucca Night Lizard
Bats	
<i>Antrozous pallidus</i> ^{**}	Pallid Bat

[†] <<<http://www.californiaherps.com/>>>

* California Species of Special Concern

Scientific Name	Common Name
Bats (cont.)	
<i>Pipistrellus hesperus</i>	Western Pipistrelle
<i>Myotis californicus</i>	California Myotis
<i>Tadarida brasiliensis</i>	Mexican free-tailed Bat
<i>Corynorhinus townsendii</i>	Townsend's big-eared Bat
<i>Eptesicus fuscus</i>	Big Brown Bat
<i>Euderma maculatum</i>	Spotted Bat
Snakes	
<i>Lichanura trivirgata gracia</i> [†]	Desert Rosy Boa
<i>Arizona elegans candida</i> [†]	Mojave Glossy Snake
<i>Chionactis occipitalis occipitalis</i> [†]	Mojave Shovel-nosed Snake
<i>Chionactis occipitalis talpina</i> [†]	Nevada Shovel-nosed Snake
<i>Hypsiglena torquata deserticola</i> [†]	Desert Nightsnake
<i>Lampropeltis getula californiae</i> [†]	California Kingsnake
<i>Masticophis flagellum piceus</i> [†]	Red Coachwhip
<i>Masticophis taeniatus taeniatus</i> [†]	Desert Striped Whipsnake
<i>Phyllorhynchus decurtatus</i> [†]	Leaf-nosed Snake
<i>Pituophis catenifer deserticola</i> [†]	Great Basin Gophersnake
<i>Rheinocheilus lecontei lecontei</i> [†]	Long-nosed Snake
<i>Salvadora hexalepis mojavisensis</i> [†]	Mojave Patch-nosed Snake
<i>Sonora semiannulata semiannulata</i> [†]	Groundsnake
<i>Tantilla hobartsmithi</i> [†]	Smith's Black-headed Snake
<i>Tantilla planiceps</i> [†]	Western Black-headed Snake
<i>Trimorphodon biscutatus lyrophanes</i> [†]	Baja California Lyresnake
<i>Crotalus cerastes cerastes</i> [†]	Mojave Desert Sidewinder
<i>Crotalus mitchellii stephensi</i> [†]	Panamint Rattlesnake
<i>Crotalus scutulatus scutulatus</i> [†]	Northern Mojave Rattlesnake
Turtles	
<i>Gopherus agassizii</i> [†]	Desert Tortoise
Frogs	
<i>Bufo punctatus</i> [†]	Red-spotted Toad

Table 4.29 (cont.) Animals of Salt Spring and Amargosa River Area

The importance of the poorwill spotted at Salt Springs lies in the fact that it was acting out of character, which is very unusual to Paiutes. This behavior is considered to be an omen; the Chemehuevi phrase for this situation says “it is time to take out your gourd and start singing a song” (Arnold et al. 1999: 52). One Native American consultant had this to say (Arnold et al. 1999: 52):

I see this area as a refuge, an area where people go to renew themselves and cleanse themselves. Someone will climb on a hill and look out for intruders because the person cleansing themselves and talking to the Mountain could not be disturbed and would need privacy. The presence of that bird [the poorwill] re-enforces the significance of the site. Things that come to the Indian are real heart.

This erratic behavior usually denotes that the animal is a messenger, with disturbed spirits often appearing in the form of an owl. The solution is to talk to this messenger.



Figure 4.80 Common Poorwill

Poorwills are also traditionally important to Indian peoples. When the greatest God, Tobats, first made the earth, nothing had a name or a shape, so he enlisted Shinob, his brother God, to help him (Palmer 1978). The two told everything to shape itself however it wanted; one object, however, had fallen off of the mountain when it had formed. The two Gods poked much fun at this object; it could not run because it had no legs, and it could not lay down or sit because there was no top or bottom. So Shinob told Tobats to name the object himself. He called it a rock, *Timpie*. *Timpie* was very much alive, and angered that all of the other living things on earth mocked his shape; after the Gods left, *Timpie*, very proud and aware of his strength, practiced rolling until he could roll as fast as any man. To mock him, the animals had made *Timpie* a fancy blanket and leggings. He coveted them even though he could not wear them, laying them in front of him and admiring them. Shinob, on seeing *Timpie*'s possessions, decided to have a little fun; he took them and started running away. When he turned to look over his shoulder, Shinob noticed that *Timpie* was right behind him. He created a canyon for *Timpie* to be trapped in, but *Timpie* rolled down one side and rolled up the other just as easily. Shinob called to the animals he passed for help, but although they all laid in front of *Timpie* in an attempt to stop him, *Timpie* rolled over all of them and killing them in the process. At last the poorwill offered his help, though Shinob said that he was too small to be of help. The poorwill pecked at *Timpie* in the same place, and then flew up; *Timpie* was annoyed that he couldn't trap the bird beneath him, but the poorwill kept pecking at the same place. Finally, *Timpie* split and broke into pieces. After this, the Gods took away *Timpie*'s ability to move; though rocks are still considered to be maltempered and are treated with caution, they are forced to lie in a bed and, should they fall off of a mountain, crumble harmlessly into pieces at its foot. The poorwill, however, was seriously injured during this operation, and as a reward, he was given the fancy blanket to bind his throat and wings, which explains his markings (Palmer 1978).

Summary of Interviews

Pahrump Paiute representatives were interviewed by UofA ethnographers on the cultural use and meaning of Salt Springs and the impacts it endured due to travel along the OST. Table 4.30 details the breakdown of interviews by tribe and gender and it acknowledges interviews conducted during previous UofA studies.

Southern Paiute Tribe	Male	Female	Total
Pahrump	1	2	3
Total	1	2	3

Table 4.30 Salt Spring Interviews

Native American Comments

According to Southern Paiute elders, this spring was traditionally used by Indian people as a water source. They believed that when OST travelers stopped at this spring and passed through this site, they would have attacked and killed any Indian people who were present.

During the Low Level Radioactive Waste Study (Arnold et al. 1999), Southern Paiute elders believed that this site was a ceremonial preparation area for those seeking Puha in the nearby Avawatz Mountains. One representative commented:

The Avawatz is a place where a person could go to find a spirit helper. He would use the Salt Spring Hills site to clean himself before going into the hills. The mountains contain spirit helpers who on the mountain—each doctor has a different animal or natural force that helps him like the wind, rain, or clouds. The doctor would call upon the mountain from time to time to help him find the proper medicine for a ceremony and the power to heal during a ceremony. These ceremonies could include individual sickness as well as group problems like drought, eclipse, or other unusual problems that the whole group faces. These doctors could call the rain—they would travel spiritually on top of their mountain and look for the rain. Avawatz would be one of those high mountains that the doctor could get up on and find the rain (Arnold et al. 1999: 52).

Another representative from the Low Level Radioactive Waste Study added:

The Salt Spring Hills support a diverse oasis of plants, trees, and shrubs. The dominant trees are mesquite. Because of the mesquite trees and location, I believe Indians gathered there for ceremonies. The mountains constrict the stream and the acoustics of the place make it a desired site for various activities. It is a charming location (Arnold et al. 1999: 52).

Salt Spring Place Features:

What resources would Indian people traditionally use at this site?

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	3	0	<ul style="list-style-type: none"> • <i>The water at this site runs nearly year round.</i> • <i>This site also has abundant water. Water runs year-round and it is a permanent source of water (Arnold et al. 1999: 52).</i>
Was this site a source for plants?	3	0	<ul style="list-style-type: none"> • <i>There are lots of mesquite trees in this area.</i> • <i>The Salt Spring Hills support a diverse oasis of plants, trees, and shrubs. The dominant trees are mesquite. Because of the mesquite trees and location, I believe Indians gathered there for ceremonies. The mountains constrict the stream and the acoustics of the place make it a desired site for various activities. It is a charming location (Arnold at al. 1999: 52).</i>
Was this site a source for animals?	3	0	<ul style="list-style-type: none"> • <i>The Avawatz is a place where a person could go to find a spirit helper. He would use the Salt Spring Hills site to clean himself before going into the hills. The mountains contain spirit helpers who on the mountain.</i> • <i>Each doctor has a different animal or natural force that helps him like the wind, rain, or clouds.</i>
Was there evidence of previous Indian use at this site?	3	0	<ul style="list-style-type: none"> • <i>The ridge near the spring has unusual acoustics that contribute the meaning of this place.</i>
Did Indian people use the geological features at this site?	3	0	<ul style="list-style-type: none"> • <i>Springs on the whole mountain side, a mountain pass, a cave, and a trail system were important geological features used by Indian people at this site.</i>

Table 4.31 Salt Spring Place Features

One Native American representative added:

This site also has abundant water. Water runs year-round and it is a permanent source of water. On top of the Salt Spring Hills, you get good views of the surrounding area. A good view is used for communicating with supernatural beings and conducting prayers. The acoustics also play an important role in the significance and interpretation of the site (Arnold et al. 1999: 52).



Figure 4.81 Salt Spring and the Avawatz Mountains

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

Salt Spring is another place located along the Salt Song trail. The abundance of water in this region of the Mojave Desert made it attractive to both humans and animals. Indian people used this spring as a place of preparation for those traveling to the Avawatz Mountains to obtain spirit helpers. Travelers used this spring as a place to rest and water their animals. The ethnographic comments detail traditional uses as well as stories of encroachment.

This segment of the trail has been greatly impacted by OST immigration and exchange; movement along the trail had both spiritual and physical impacts to the site. Salt Springs and its surrounding area play host to a number of plant and animal species, and it has been described as a “diverse oasis” (Arnold et al. 1999: 52). Because of the dependency of year-round water here, this place has been named an area of critical concern by the BLM; the BLM also manages the spring, known as the Salt Creek Hills Protected Area (Arnold et al. 1999: 52).

Salt Spring has been linked with religious preparation activities for those on pilgrimage to the Avawatz Mountains (Arnold et al. 1999). Avawatz pilgrims would begin their journey in permanent home communities, defined as having irrigated agricultural fields and large populations (Stoffle et al. 1990). The pilgrims would visit a series of shrines along a trail network before arriving at their ceremonial destination. At these shrines, prayers and spiritual cleansing would occur. Salt Springs would serve as one of the final places a person would visit before ascending into the mountains.

Salt Springs is also important in terms of the Salt Song. The Salt Song walks a departed soul through the afterlife, and describes the spiritual journey of two sisters who split at one point along the trail; one goes south, and likewise during the ceremony, the Hualapai form one set of singers to represent the departing sister and perform the Bird Song. It is said that wherever the Salt Sisters traveled along the Salt Song Trail, the water was salty (Kelly 1933).

Salt Spring is located at the spot where the OST leaves the Amargosa riverbed (Steiner 1999). This is also the place where the mule trail and the wagon trail were forced to split; the old mule trail climbed a “narrow canyon where the Amargosa Mine is now located and drew water from two small springs near the mine” (Steiner 1999). The wagons, however, were too wide to travel along this route, and instead continued around the canyon to Salt Spring Hills (Steiner 1999). Figure 4.82 also shows a map drawn by Lt. B.F. Davis in support of Major Carleton’s campaign against the “Pah-Ute” Indians in the 1860s. It begins where the OST, noted as the Old Road to Salt Lake, emerges from Amargosa Canyon and follows Salt Creek through Silurian Valley.

The water at Salt Spring, though the clear alternative for wagon travelers, was as its name implies—filled with minerals and “not a refreshing water source” (Steiner 1999). Many early travelers stated in their diaries that the water was not safe, substantiated by rumors of the deaths of several people after drinking from the spring. In addition, it was rumored that the spring contained arsenic, although this has not been substantiated by modern analysis. However, the USGS has found large quantities of both sodium and magnesium sulfates in Salt Spring water, which not only account for the spring’s taste, but also the danger in drinking from it. Sodium and magnesium sulfates act as laxatives, and therefore it is possible that either people or animals who had drunk “excessive amounts” of the water would become ill as a result.

Water, however, was scarce, and so Salt Spring became a popular stop along the trail. The following account is that of Oliver Pratt, in 1848 (Steiner 1999: 174).

Marched from Archaletta [sic] to Aqua de Tomoso, a distance of 30 m. over a hard road and in the rain. It had rained all day and the

runs and hollows were full of water. Camped in the rain. Water [in the spring] was of the most insufferably poor kind, and grass not worth mentioning. A poor show for making a 65 m. jornada tomorrow...

This excerpt also highlights the confused terminology present in the accounts of travelers who stopped at Salt Spring. Fremont had previously used the name *Aqua de Tomoso* (or *Tomaso*) to describe a spring in the area (Steiner 1999). Fremont's spring, however, is widely believed to be the nearby Bitter Spring, not Salt Spring. Bitter Spring was the next major watering site along the Trail. To further complicate the question, however, an early map of the region does denote *Aqua de Tomoso* as lying in between the Bitter and Salt Springs. The reasoning or story behind this name is unknown. Oliver Pratt refers to Salt Spring as *Aqua de Tomoso* in his diary by mistake (Steiner 1999).

Another account of the spring, given by David Cheesman in 1850, echoes the same sentiment as Pratt (Steiner 1999: 174).

Here we found some of the heaviest roads we had yet pulled through. The sand was so close and deep it seemed almost impossible to move the wagons through it, the cattle were so weak. The water here is so alkaline that the stock would not drink it. They would make the effort and then give up.

On December 1, 1849, gold was discovered at Salt Spring by two Mormon missionaries, James Brown and Addison Pratt, and an Argonaut named Rowan. The gold was found in a six to ten foot wide quartz belt that ran north to south along the tip of the ridge (Lingenfelter 1986). Soon after its discovery, a short-lived mining operation was set up despite the effort that was needed to extract the gold from the rock. The Cheesman party also paid a visit to the gold mine. The land in between the spring and the mine was topographically difficult to traverse; it formed an ancient runoff marsh, comprised of residual sediment from characteristic Pleistocene dry lake beds that dot the Mojave Desert (Steiner 1999: 174-175).

Soon after we left them [the miners] we passed where a pack train had mired down and all the animals perished at some former period. This train was destined for Santa Fe...

Even during dry weather these sediment beds were notoriously difficult to navigate, but rain would turn the land in "gooey mud." For this reason, the OST veered to the west after the Salt Spring, in order to stay on solid land (Steiner 1999).

The Salt Spring Mining Company brought in a large quartz-crushing machine to alleviate the problems of removing the gold three years after finding the precious metal in the spring of 1852. The machine needed all the mesquite and creosote within the haul of the mine to get the boiler heated, in addition to water from the spring. Eventually, though, the boiler, pipes, and valves of the machine became clogged with salt. Following these technological problems, in July

1852, a small number of Paiutes came into the camp and stole tools. This proved to be the final straw for the mining company, which closed down operations shortly afterwards (Steiner 1999).

With the large number of travelers and animals stopping at this spring, Indian people were forced to abandon it out of fear of being taken into slavery or being killed (Lyman 2004). The Salt Spring area in particular was a prime location for horse theft and raiding. Though Mexican travelers often acquired Paiute women and children while traversing the trail, one of the most frequent raiders was not a Euro-American traveler, but a Ute from central Utah named *Walkara* (sometimes spelled *Wakara* or *Walker*), which means yellow. An extremely intelligent man, *Walkara* was also imposing, over six foot in stature (Simmons 2000). When he became chief of the Timpangos Utes, *Walkara* would stop travelers along the trail between Utah and California and request gifts for safe passage; he soon found, however, that a far greater profit could be made in stealing horses from California ranches. His frequent raids against OST travelers gave rise to the nickname “Napoleon of the Desert.” He began raiding travelers when still in his twenties, during the 1830s, and continued until well after Mormon colonization of Utah. He came into the region posing as a trapper (Lingenfelter 1986). In addition to horses and mules, *Walkara* would raid Kaibab Paiute villages, selling the captives to New Mexicans and Navajos (Simmons 2000).

Stories of *Walkara*'s exploits quickly became the stuff of legend, his notoriety reaching its peak in the 1840s. Perhaps his most famous raid involved a complicated strategy where Ute groups simultaneously drove off choice horses from various groups moving along the OST. They were pursued, and in the ensuing battle at Cajon Pass, several members of the raiding party were killed and a few stolen horses lost. *Walkara*, however, grabbed the horses of the pursuers to make up for the loss of the few stolen animals, and returned to Utah with a herd of over 2,000 animals (Simmons 2000).

The surge of not only travelers but settlers into the Mojave Desert, and the push of Paiutes further away from sustainable land, caused the region to become rapidly unstable. By the 1860s, the United States military became a prevalent and powerful force in response to regional unrest, though they did not always quell episodes of violence. In March of 1860, tensions between the military and Paiutes culminated with an incident involving the deaths of three settlers at Bitter Springs, the next available water source along the OST heading to California (Casebier 1974). Though these deaths were not conclusively attributed to Southern Paiutes, with what Casebier suggests is the memory of Mormon involvement at the Meadow Mountain Massacre still fresh in the minds of OST travelers, a “campaign” against Paiute peoples in the Mojave Desert region began. Following these deaths, Major James H. Carleton was given orders to set up an outpost at Bitter Springs. From this outpost, he was ordered to punish whatever Indians he encountered; the orders interestingly did not require him to find the persons responsible for the killings of the three settlers.

Brigadier General Clarke is fully aware of the probabilities that you may find no Indians in the neighborhood of the late murders...To make the attempt to punish the murderers and prevent repetition is still imperative.

He does not wish you to visit with punishment any Indians so distant from the locality pointed out in your letter of instructions, that they may be innocent or thought to be so by disinterested people (Casebier 1974: 12).

In mid-April 1860, Carleton's men came into contact with a group of Paiutes; one man was killed in the skirmish while a second was taken hostage, and later killed as well (Casebier 1974). Though Carleton submitted an official report of the incident, it cannot be found; the only available account of the incident was published in the *Los Angeles Stat* on April 28, 1860. The bodies of the two Indian casualties were taken to the new Camp Cady at Bitter Springs and hung on the gallows to serve as a warning for any Indians that may pass.

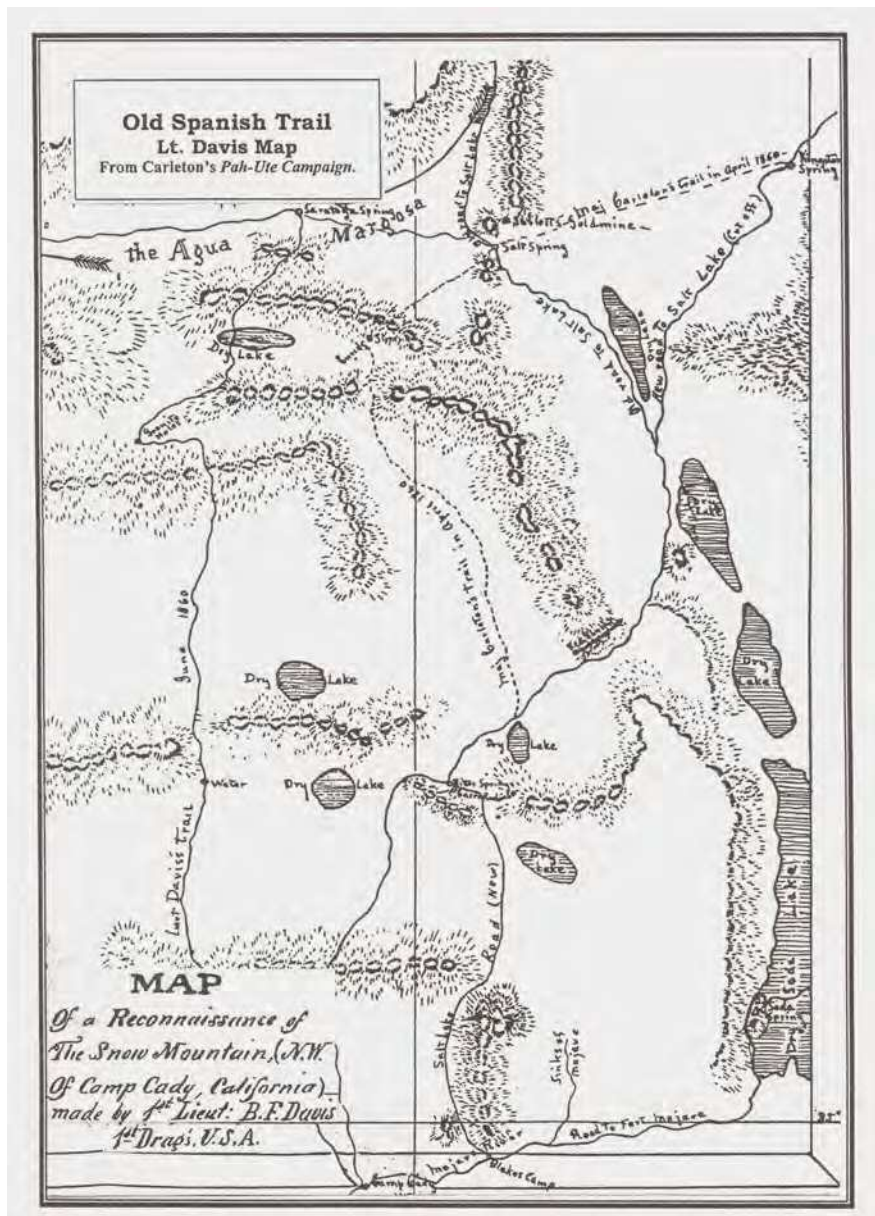


Figure 4.82 Lt. Davis' 1860 Map of the Old Spanish Trail, Marked as the Old Road to Salt Lake (Steiner 1999)

The most bizarre events of the campaign followed this incident. A detachment from Camp Cady was sent on a scouting mission to Soda Springs, encountering a group of Indian people at the Kelso sand dunes. They were immediately attacked by the soldiers, leading to three Paiute fatalities; the heads of the victims were ordered by Carleton to be cut off and sent back to the fort in a sack; they were then hung on the gallows to “keep company” with the bodies already there (Casebier 1974).

The Indian people in the area were pushed away after the events at Bitter Spring, for fear of Carleton and his men. Carleton suspected that they had fled to “a snowy white mountain which lies north of west from Kingstons Spring,” today known as Telescope Peak (Casebier 1974). Paiutes, however, were also pushed to the Mojave Road, concentrating in areas where “a few white men had settled and were starting ranches” (Casebier 1972). Casebier here notes that Paiutes, after the incidents of 1860 and a broken treaty with Carleton concerning the ways in which Indian people were allowed to interact with white settlers and travelers through the region, were “more frequently encountered” along this stretch of the Mojave Road than ever before. During the Civil War, this proximity worsened, and a heavy military presence was kept at both Fort Paiute and nearby Camp Cady to answer the “loud” demands of the settlers (Casebier 1972).

Salt Spring was the location of a great deal of activity during the latter days of the OST. This flurry of activity forced Indian people away from a traditional ceremonial use area. The traffic on the route led to this site being opened up for gold mining and settlement, which in turn destroyed the geological structure and native vegetation of the area. With the increased aggression of Carleton and his men in the 1860s, Indian people were permanently diverted from this important traditional area.

4.16 PIUTE SPRING

Approximately twenty-five miles west of Fort Mojave, in a break running through the south end of the Piute Mountains lies Piute Spring (see Map 4.16). This water is the source of Piute Creek, the only perennial stream in the area. The spring and associated riverine oasis produced by the creek are truly unique being located in an extremely arid volcanic landscape. From a landscape of black basalt boulders rise cottonwood trees, Indian medicine plants, and herds of Mountain Sheep. Peckings on basalt boulders attest to the traditional importance of this place for ceremony.

The spring is about one mile west of the historic Fort Piute site and along the old Mojave Road, also known as the Old Government Road. This route was an alternative southern route of the OST used by travelers from the east on their way to California. While the presence of OST travelers probably forced Indian people out of the area, they had come to reoccupy Piute Spring by the turn of the century. Two respondents mentioned that they had family members living at the site around 1898. Another respondent said that Indian people *“kept coming back here. I know families that lived here until the early 1900s. I think it was the Smith’s and other families too, but I don’t recall the names.”* Today, it is part of the National Park Service’s Mojave National Preserve Area and an archaeological district on the National Register.



Figure 4.83 Mountains Surrounding Piute Spring

Geology and Ecology

The lava and breccia of the south end of the Piute Mountains are composed of andesite, trachyandesite, basalt, trachybasalt, and basaltic andesite flows and flow breccia, and interbedded tuff and gravel; porphyritic or aphyric andesitic and basaltic dikes are found in the flow breccia. Lacustrine deposits are dissected into badlands topography by Piute Gorge, and capped by alluvium bearing a petrocalcic layer (Nielson 1998). The volcanic rocks of the mountains surrounding Piute Spring are predominantly intermediate (a mix of dark and light materials such as diorite) to mafic (materials relatively high in the heavier elements, usually dark in color with relatively high specific gravities, such as basalt and gabbro) (Nielson et al. 1987).



Figure 4.84 Piute Spring

The deep, well-drained soils are mostly of the Yermo and stony-Yermo series. They formed in mixed, moderately coarse textured, calcareous, gravelly or cobbly alluvium, and have little organic matter. Upland vegetation is Shadscale scrub, which is dominated by shadscale (*Atriplex confertifolia*) and budsage (*Artemisia spinescens*) with a sparse (15% or less) understory of desert needlegrass (*Achnatherum speciosum*) and Indian rice grass (*Achnatherum hymenoides*) (Barbour and Major 1977). Other species include hop sage (*Grayia spinosa*), horsebrush (*Tetradymia canescens* and *T. axillaris*), Nevada ephedra (*Ephedra nevadensis*), winter fat (*Krasheninnikovia lanata*), yellow rabbitbrush (*Chrysothamnus naseosus*), green rabbitbrush (*Chyrsothamnus teretifolious*), gold bush (*Ericameria cooperi*), and cheesebush (*Hymenoclea salsola*) (NRCS Soil Survey 2004).



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MN (12.6° E)



Data Zoom 12-0

Map 4.16 Piute Spring and the Piute Mountains



Figure 4.85 Vegetation at Piute Spring

When precipitation is high and annual forbs are abundant, prominent species include *Cryptantha* spp., *Mentzelia* spp., *Linanthus* spp., *Phacelia* spp., and genera in the *Asteraceae* Family. The riparian vegetation of the gorge is primarily woody species such as willows: (*Salix lutea*, *S. lasiolepis*, *S. exigua*, *S. goodingii*, *S. lucida*), and wild roses (*Rosa woodsii* var. *ultramontana*). Herbaceous species in the riparian area include goldenrod (*Solidago canadensis*), dogbane (*Apocynum cannabinum*), California loose strife (*Lythrum californicum*), sedges (*Scirpus* and *Carex* spp.) and rushes (*Juncus* spp.) (NRCS Soil Survey 2004).

Wildlife species common to the area include Mountain Sheep, coyote, black-tailed jackrabbits, ground squirrels, kangaroo rats, quail, roadrunners, rattlesnakes, and several species of lizards. The Piute Mountains are considered too small and too sparsely watered to accommodate permanent populations of mule deer (Figure 4.85) and considered a transient range for both species. Golden eagles, prairie falcons, redtail hawks, and the desert tortoise can be found as well. The desert tortoise is threatened and the entire Piute Mountain Wilderness Area has been classified as critical habitat for it (BLM 2005).



Figure 4.86 Bighorn sheep along the Piute Creek Trail

Piute Spring feeds Piute Creek, which is an above-ground perennial stream for about a mile before it disappears below the surface (NPS 1998). The average flow from the spring has been 42 gallons per minute (NPS 2002). The climate is relatively mild with temperatures ranging from 30° to 80°F most of the year. Summer temperatures are usually over 115°F and may exceed 120°F. Annual precipitation is four to six inches.

Summary of Interviews

On June 7, 2006, a Pahrump tribal representative was interviewed at this site about the use and meaning of Piute Spring and how it was impacted by movement along the OST. Additionally, two Chemehuevi representatives were interviewed at the site on October 21, 2006. Other contributions to the interview data came from an additional Chemehuevi representative who has lived in the area for many years. He completed an interview, although not at the site. Interviews from previous studies that mentioned the area and its history were also added to this site description. Table 4.32 details the breakdown of interviews by tribe and gender.

Paiute Tribe	Male	Female	Total
Pahrump	1	0	1
Chemehuevi	3	0	3
Interviews from Previous Studies	--	--	32
Total	4	0	36

Table 4.32 Interviews at Piute Spring



Figure 4.87 UofA Ethnographers and a Southern Paiute Representative

Native American Comments

Traditional Uses of Piute Spring

When asked, “would Indian people have been attracted to this place as it existed traditionally and how would they have used the area,” Indian people responded:

- *Indian people would have been attracted to this place because of the remoteness, solitude, resources, and refuge. This is a refuge area and contains Puha! There are rock drawings and important plants, animals, and other natural resources necessary for doctoring and ceremonial use.*
- *Definitely, there’s water here. There’s lots of good vegetation and hunting. This is a good place to shoot down on the animals from a high place. They definitely stayed here during the summer under the shade of the trees. It’s lots cooler up here than down there.*
- *Yes, it had a spring, mesquite trees, cottonwood trees, deer, tortoises, coyotes, chuckwallas, an oasis setting; Chemehuevi dwellings with families gathered together, a secluded area, and aesthetic viewshed.*
- *Yes, this is where my grandfather was born. People used this site for living, hunting and seasonal camping.*

When asked, “are there places traditionally used by Indian people near by that are connected to this place,” Indian people responded:

- *Yes- rivers, song trails, doctoring spots, and the mountains (for a map of some of the song trails connected to Piute Spring, see Map 4.17).*
- *Yes. There’s a Chemehuevi story about the area. It’s about the Southern Fox who lives at the Whipple Mountains. He decides to visit his cousin to the north. He shoots arrows out ahead of him before he sets off. One arrow lands at West Wells and there’s water. This place was the next place an arrow landed. Every time an arrow landed, there was another spring.*
- *Yes, Mouse at Valley of Fire, Providence Mountains, Mitchell Caverns, Christmas Tree Pass, Searchlight, Birthing Rock at the Hole in the Wall in the Providence Mountains all have a ceremonial connection. At Mitchell Caverns, the caves were places to get songs, to learn how to heal. Gypsum Cave, one over 500 miles north in Nevada was traveled to.*
- *Yes, the Mohave Trail is a trading trail and is thousands of years old. Spirit Mountain is nearby as is Mitchell Caverns. These are considered to be sacred to the Mohaves and the Chemehuevis.*



Figure 4.88 Mountains Surrounding Piute Spring

Piute Spring Features

When asked, “what resources would Indian people traditionally use at this site,” Indian people responded:

Feature Type	Yes	No	List and Describe the Use Each Specific Feature
Was this site a source for water?	4	0	<ul style="list-style-type: none"> • <i>Paiute people traditionally used the springs and the seeps here.</i> • <i>Yes, water would have been important.</i> • <i>A spring meanders for nearly two miles and disappears into the sandy valley floor.</i>
Was this site a source for plants?	4	0	<ul style="list-style-type: none"> • <i>Indian people used the sage and creosote at this site.</i> • <i>If they came in the spring, the willows were ready to harvest and make baskets. The mesquite trees were used for firewood and making cradleboards.</i> • <i>People used willow, watercress, and tobacco here. They ate the edible cattail bulbs. The inner bark of the cottonwoods were used as part of a fire starter kit.</i> • <i>Mesquite, cottonwood, willow, creosote, sage, annual grasses.</i>
Was this site a source for animals?	4	0	<ul style="list-style-type: none"> • <i>There are mountain sheep, hawks, lizards, snakes, and ground squirrels.</i> • <i>This place was good for hunting rabbits, sheep, deer, and quail. It’s a good place to ambush them.</i> • <i>Hawks, owls, and eagles were used for feathers. Chuckwallas and tortoises were a staple. Bighorn sheep, deer, rabbits and mountain lions were also hunted.</i> • <i>Deer, rabbits, snakes, birds, tortoise, wild burrows, coyotes, mountain lion.</i>
Was there evidence of previous Indian use at this site?	4	0	<ul style="list-style-type: none"> • <i>The rock markings and the fort are evidence that Indian people used this area.</i> • <i>The petroglyphs in the area show previous Indian use.</i> • <i>There are many examples of rock art.</i> • <i>Trading trail, petroglyphs, grinding rock, secluded area, access is rough.</i>
Did Indian people use the geological features at this site?	4	0	<ul style="list-style-type: none"> • <i>I saw evidence of Indian rouge for war paint and ceremony in the red rocks. People maybe used minerals and caves if they’re here.</i> • <i>A small cinder cone volcano, Piute Mountain Range, spring.</i>

Table 4.33 Piute Spring Place Features

Impacts to Piute Spring

When asked, “when non-Indian travelers began traveling through this place, did their presence affect the Indian people who used this area, and what kinds of impact did they have” Indian people responded:

- *Sickness and slavery impacted this place. Non-Indian people dammed up the water, which caused it to hide. They never talked to the water to help it grow. Animals disappeared because they were hunted and not respected. Travelers brought sickness and it killed the animals, plants, water and it tainted the area. The near by places were also impacted due to disrespect.*
- *Yes, definitely. Indian people traded and acquired metal axes and pots. The style of dress changed too. They got the settlers style of dress. The traditional way of life was altered. There was a big impact right off the bat.*
- *Early contacts were tentative. Later on, the Chemehuevis pushed further into the desert. There was a slave trade. Southern Paiute and Chemehuevi children were taken by Peg Leg Smith, an Anglo, Walkara—a Ute, and the Spanish.*
- *Yes, there was impact because minerals like gold and ore were discovered in Searchlight, NV and Indians lived at the Cottonwood Island area. The boom of immigrants displaced the Indians and many moved to Fort Piute. They gradually moved away from Ft. Piute and ended up in Chemehuevi Valley, Las Vegas, Pahrump, Blythe, or Parker Valley. The Chemehuevi felt the area belonged to them and was one of the favorite hangouts.*

When asked, “what impacts, if any, did the presence of the Non-Indian travelers have on the water at this site,” Indian people responded:

- *It is hard to say. I believe that non-Indian people would know better than to destroy it.*
- *The fort was built to protect non-Indians from crossing the desert and to control and protect the water. After the fort was deserted, my grandfather lived here. The traditional life would have filtered back in and horses and cows would have followed the creek and spring.*
- *They caused pollution of the water.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the plants at this site,” Indian people responded:

- *They would have chopped mesquite for firewood.*
- *The horses ate plants used by the Chemehuevi.*
- *Their animals trampled and ate the plants. There was waste and pollution.*

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the animals at this site,” Indian people responded:

- *That depended on the volume of traffic coming through here. Continuous traffic could’ve scared game to other springs. Permanent settlement would scare the animals and they would only come to drink at night.*
- *Indian people ate and hunted horses. They would have hunted them more, but activity in the area would have kept them away from the spring.*

When asked, “what impacts, if any, did the presence of the Non-Indian travelers have on the traditional use features at this site,” Indian people responded:

- *I don’t know if they fought with Indians, but they may have burned their brush houses.*
- *Many artifacts were stolen and are no longer there.*
- *Rock art is scattered in here in a way that I’ve not seen before.*



Figure 4.89 Tribal Representative Examining Rock Art at Piute Spring

When asked, “what impacts, if any, did the presence of the non-Indian travelers have on the geology at this site,” Indian people responded:

- *Not so much here, but the Providence Mountains and Mitchell Caverns were impacted.*

When asked, “if Indian people could no longer use this place and near by places in a traditional way did they go elsewhere,” Indian people responded:

- *The song and story trails remained but the Indians had to seek refuge away from the travelers.*
- *No, they kept coming back here. They’d leave but kept coming back. I know families that lived here until the early 1900s. I think it was the Smiths. There were other families too, but I don’t recall the names.*
- *There was some resistance. Some went to work in mining camps or along the river. They possibly went to other springs, but my family was removed. Queho, Posey, Willie Boy, Mouse, and one other were all accused of murder and hunted. They took action against the intruders and moved to these places with their families to get away.*
- *Yes, they went to Chemehuevi Valley, Blythe, Kingston Mountain, Potosi Mountain, and Providence Mountain. They chose these places because of seclusion, family bonds there, and labor was available.*

Ethnographic Comments

Ethnographic comments are provided after the American Indian interpretation and evaluation of places along the OST. The purpose of these comments is to contextualize certain statements made by the tribal representatives during the on-site interviews. Each American Indian interpretation and evaluation section engages a wide range of important issues. The ethnographic comments section selects one or more of these issues and provides additional insights based on extant published literature.

Piute Spring was one of the major occupational areas for the Las Vegas Paiutes and it has a significant role in Southern Paiute mythology which places it on the Southern Fox Trail. The story of the Southern Fox showed the Chemehuevi Paiutes how to cross the desert safely from one watering hole to the next. The traditional uses of this area are discussed below.

According to one tribal representative, there are several names for the various features of this area. The Chemehuevi call Piute Spring, *Paasa*, the nearby Piute Mountains are known as *Pampanigaiua*, or the Talking Mountains, and the Piute Springs badlands are called *Paasavuntugivi*. The badlands are part of the black volcanic mountain range and the place where tribal representatives were interviewed.

Piute Spring is one of the major occupational areas for the Las Vegas Paiutes (Bean, Vane, and Young 1982) and it has a significant role in Southern Paiute mythology. This site is located on the Route of Southern Fox, a Chemehuevi Paiute mythological hero who traveled a north-south route visiting relatives and had adventures as he went. The route began in the Whipple Mountains to the southeast, proceeds north to West Wells, then northwest to Kleinfelter, Piute Spring, Pahrump, and ends in Death Valley. Before beginning his journey, Southern Fox shot his arrows out on the path ahead of him. Where each arrow pierced the

ground, a watering place was created after the arrows were retrieved. The third stop for Southern Fox was Paasa, or Piute Spring. The following watering places are *Tooyagah* and *Aipavah*, which are known today as Rock Springs and Kessler Springs (Laird 1976).

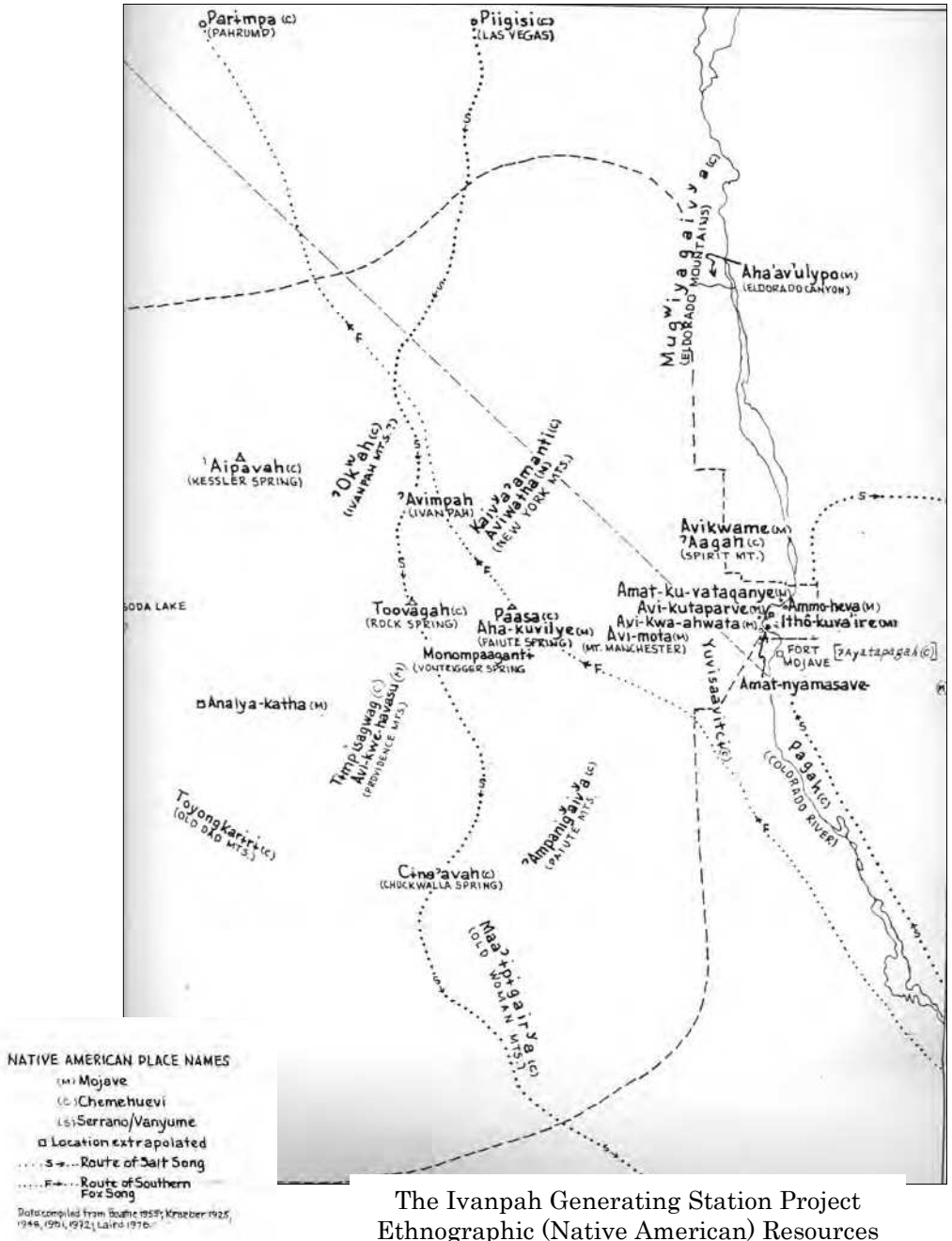
Piute Spring is also on an old east-west Indian trail and east of the Salt Song Trail (Map 4.17). The location of Piute Spring on the route of Southern Fox and as a stop on Indian Trails and the Salt Song Trail was mentioned numerous times by Indian representatives in the field. The story, trail, and song are well known to Indian people and consequently the Piute Spring area is well known.

In a cultural impact study of a proposed power line (Bean, Vane, and Young 1982), springs ranked second among 16 cultural features in cultural sensitivity relative to development activities. Tribal study participants specifically identified Piute Spring and Creek as being one of the places of greatest concern. Another power line study (Stoffle and Dobyns 1983) produced similar findings. The tribal participants ranked springs as being of the greatest concern and cultural sensitivity to development impacts.



Figure 4.90 Rock Peckings at Piute Spring

These power line studies produced a map of the Mojave Desert with cultural important Native American places. Each site has the traditional Indian name followed by the name of the place in English. Map 4.17 shows the eastern portion of the map with Piute Springs in the middle.



The Ivanpah Generating Station Project
 Ethnographic (Native American) Resources
 Bean, Vane, and Young 1982

Map 4.17 The Piute Spring and Mojave Desert (Bean, Voney and Young (1982))

Perhaps one reason Piute Spring and Creek have such significance to Indian people is due to the historical importance of the area. During war times, the Chemehuevis could no longer use the river to travel from settlement to settlement. The tale of Southern Fox showed the Chemehuevis how to cross the desert safely from one watering hole to the next. Crossing these arid lands became an important mechanism for Chemehuevis during the years of war with the Yuman tribes (Laird 1976).

Casebier (1974) states that before the arrival of Europeans, Indian people had a vast network of trails in the area. These were used as trade routes. One example of such a trail is what Casebier (1974) calls the old Mohave Indian Trade Trail. He says this trail, which ran from the Mohave villages on the Colorado River to the Pacific coast of California, passed through the Piute Spring site. Casebier describes Piute Spring as being, “one of the most beautiful and abundant springs of free-flowing water in all the Mojave Desert,” (1974: 11). For this reason, he states that this area would have been a major intersection for the many Indian trails used in the past.

Further evidence of this is suggested by the remnants of old Indian trails through the Piute Mountains (Casebier 1974). Rock art in the area, as seen in Figure 4.90, also supports the idea of Piute Spring being a major intersection or trailhead in the area. While there are still hundreds of these boulders at the site, many have been lugged away from the site (Casebier 1974). It would be hard to determine what significance is contained in the artwork on the boulders, but it has been suggested that the petroglyphs are used as spiritual helpers for those traveling along the trail. Supporting this idea is the petroglyph of a mountain sheep found at the site during the October 2006 fieldwork (Figure 4.90).

Other explorers and travelers in the area recognized the importance of the Chemehuevi trail stops and in particular, Piute Spring. Many original diaries and journals exist that detail Piute Spring and its importance in the surrounding area. One of the earliest is that of Francisco Garcés, who traveled through Arizona, California, and Sonora, Mexico between 1775 and 1776 (Garcés 1900). On May 28, 1776, Garcés visited Piute Spring and reported the presence of a Chemebet rancheria⁷. He called the spring Aguage de la Trinidad and described it as a, “a good watering-place” (Garcés 1900).

Nearly fifty years later, Jedediah Smith passed Piute Spring. He visited the spring twice, once in 1826 and again in 1827. On his 1827 trip, Smith followed the route of Southern Fox by stopping not only at Piute Spring, but also at Rock Spring as well (Smith 1977). Smith, like Garcés, describes the spring as being an important water source on the route to California (Smith 1977). In another account, Whipple, camping along Piute Creek in the 1854, described the area as a small basin with good grass and rich soil, and many signs of Indian use, which he attributed to the Pai-Utes of the mountains. He found wheat and corn stubble, primitive huts, rinds of melons and squashes, turtle shells (meaning desert tortoises), and many "Indian hieroglyphics" (Whipple 1856 in Bean, Vane, and Young 1982).

Again, the importance of the Piute Spring site is evident in its location along recognized trails. The Mojave Road used by settlers headed to the Los Angeles area probably overlaid older Indian trails that ran between perennial water sources. This route later became the Government Road and early travelers left petroglyph inscriptions at Piute Spring. Throughout the 1860s soldiers were temporarily stationed at Fort Piute, even though the official army facility was established in 1867. Fort Piute, an outpost of Fort Mojave, provided a military presence and protection for the travelers to California as well as escorts for people on the mail route from San Bernardino to northern Arizona (Paher 1970).

⁷ Chemebet is the name Garcés uses for the Chemehuevi (Coues 1900).

The Fort was referred to as the 'outpost at Piute Creek' by the U.S. Army (Casebier 1986). This small, isolated post was staffed officially by 18 men from Company D 9th Infantry Division. The Native Americans resisted the intrusions with attacks on westbound settlers and mail wagons traveling from Prescott, Arizona to Los Angeles, California (McKinney and Rae 1994). The fort, however, did not remain in operation long. When the mail route was switched to a more southerly course in March of 1868, Fort Piute was abandoned. Today a stone corral and remnants of a rock wall are all that remain of the fort (Paher 1970).

CHAPTER FIVE RECOMMENDATIONS

This essay presents mitigation and management recommendations made by representatives from the six involved tribes in the Old Spanish Trail Ethnographic Study. Representatives offered recommendations to help guide the National Park Service and Bureau of Land Management in creating policies and regulations in protecting and managing places identified as culturally significant and affected by OST travel. The recommendations were discussed during the interview process which took place on-site during the UofA field visits. All recommendations in this report has been reviewed by those who took part in the interviews and corresponding tribal governments.

Indian people provided recommendations that fit into nine categories: Increase Access, Decrease Access, Interpretative Signage, Environmental Restoration, Cultural Restoration, Site Protection, Sacred Site Protection under Executive Order 13007, Traditional Cultural Property (TCP) Nomination, and Leave Alone/No Action Required/ Already Protected. These nine categories cover a broad range of management activities that range from placing large rocks to prevent off-road vehicles from driving over the site to nominating places as TCPs and Native American Sacred Sites. At some sites Indian people requested that the number of non-Indian people visiting be reduced in order to protect the integrity of the site. Indian people also recommended that certain places be designated for interpretive signage and restoration activities.

Table 5.1 lists each site discussed in the report and the types of management action that has been recommended. Following the table is a more detailed discussion on specific management actions. The chapter concludes with management recommendations in regards to the outcome of this study and all future studies pertaining to the OST and Native American resources.

Site	Access-Increase	Access-Decrease	Interpretative Signs	Restoration-Environ.	Restoration-Cult.	General Site Protection	Site Protect.-Sacred Site Exe. Order 13007	TCP Nomin-Bulletin 38	Leave Alone/No Action/Already Protected
Carracas Crossing	Indian		X	X	X		X	X	
Water Hole Rock		Non-Indian			X		X		
Crossing of the Los Pinos		Non-Indian					X		X
Ridges Basin							X		X
Hesperus- La Plata River	Indian	Non-Indian				X	X		
Rochester Panel						X	X		
Solar Calendar		Non-Indian				X	X	X	
Camp Spring		Non-Indian		X			X		
Salt Cave		Non-Indian				X	X	X	X
Stuart Ranch	Indian					X	X		
Pah Hu Wichi							X		X
Cottonwood Spring			X				X		
Mountain Spring	Indian			X			X		
Stump Springs		Non-Indian		X		X	X		
Resting Springs			X				X		X
Tecopa							X		
Dumont Dunes							X		
Salt Spring		Non-Indian					X		X
Piute Spring	Indian					X	X		

Table 5.1 Types of Recommendations by Site

5.1 Site by Site Recommendations

Carracas Crossing- The Southern Ute Museum could do a plant collection exhibit at this site. A recommendation was made to convert the crossing into a park with a marker to designate the OST and interpretive signage to note traditional Ute use of this area. This site should also be protected and nominated as a TCP. The Piedra Corridor is special and should receive a special designation. This site should be nominated as a sacred site under Executive Order 13007.

Water Hole Rock- This site is on private property and there should be no access for public. This site should be nominated as a sacred site under Executive Order 13007.

Crossing of the Los Pinos River- This site is on private property and there should be no access for public use. This site should be nominated as a sacred site under Executive Order 13007.

Ridges Basin- The area is to be flooded by A-LP project, no action needed.

Hesperus-La Plata Crossing- Indian people would like special access to this site. This site should be nominated as a sacred site under Executive Order 13007.

Rochester Panel- The BLM should take steps to prevent any damage to the cultural resources found at this site because there is already a trail cut for visitors to view the rock art panels. This site should also be nominated as a sacred site under Executive Order 13007 if it has not been done so already.

Solar Calendar- This site should be protected as a Native American sacred site under Executive Order 13007 and a request has been made to nominate this site to the National Register of Historic Places as a TCP. Tribal representatives requested that access to this site be limited only to Indian people to prevent any further vandalism or desecration of the site. The Shivwits tribal representatives would like the Solar Calendar to be given special federal status and for the appropriate land management agency to work with the tribe to reduce access, post exclusionary signs, restore the site to a traditional condition, and develop a co-management relationship with the tribe which would at a minimum, involve regular monitoring. Secrecy regarding the location and key components of the Sacred Cave and Solar Calendar is now lost. Many people know about and use this site during recreational tourism. Thus, the Shivwits tribe (and by implication the Paiute Tribe of Utah) recommends that a minimal but culturally accurate interpretation of the place be developed and made accessible to area visitors so they understand the reason for reduced access and restoration efforts. Educating visitors in this largely un-patrolled area may be the best path to stabilization and preservation. The Indian people involved in this study would also like the area to be closed formally at least once a year so that commemoration ceremonies can occur.

Camp Spring- This site should be nominated as a sacred site under Executive Order 13007.

Salt Cave- This site has been underwater since the creation of Lake Mead, however, years of drought have caused the lake levels to decrease and the cave is above water. Access to the cave is extremely difficult. Tribal representatives would like to see this important ceremonial area

nominated to the National Register as a TCP. This site should also be nominated as a sacred site under Executive Order 13007.

Stuart Ranch- This site is on private land so Indian people would like to see an increase in Indian access to the site. They would also like to see that steps be made to further protect the rock art and would like to see it designated as a Sacred Site under Executive Order 13007.

Pah Hu Wichi- This site should be nominated as a sacred site under Executive Order 13007.

Cottonwood Spring- Indian people would like to see interpretive signs and information regarding the Southern Paiutes and the OST at this site. This site was once a traditional Southern Paiute community. This site should be nominated as a sacred site under Executive Order 13007.

Mountain Spring- Indian people would like to see a decrease in non-Indian motorized vehicle access to the site. They would like to see efforts made to promote a healthy environment for the plant and animal life. This site should be nominated as a sacred site under Executive Order 13007.

Stump Spring- Indian people would like to see motorized vehicle access restricted at this site, foot traffic only to this location. They would also like to see the litter found around the spring removed. This site should be nominated as a sacred site under Executive Order 13007.

Resting Spring- This site is on private property. This site should be nominated as a sacred site under Executive Order 13007.

Tecopa- This site should be nominated as a sacred site under Executive Order 13007.

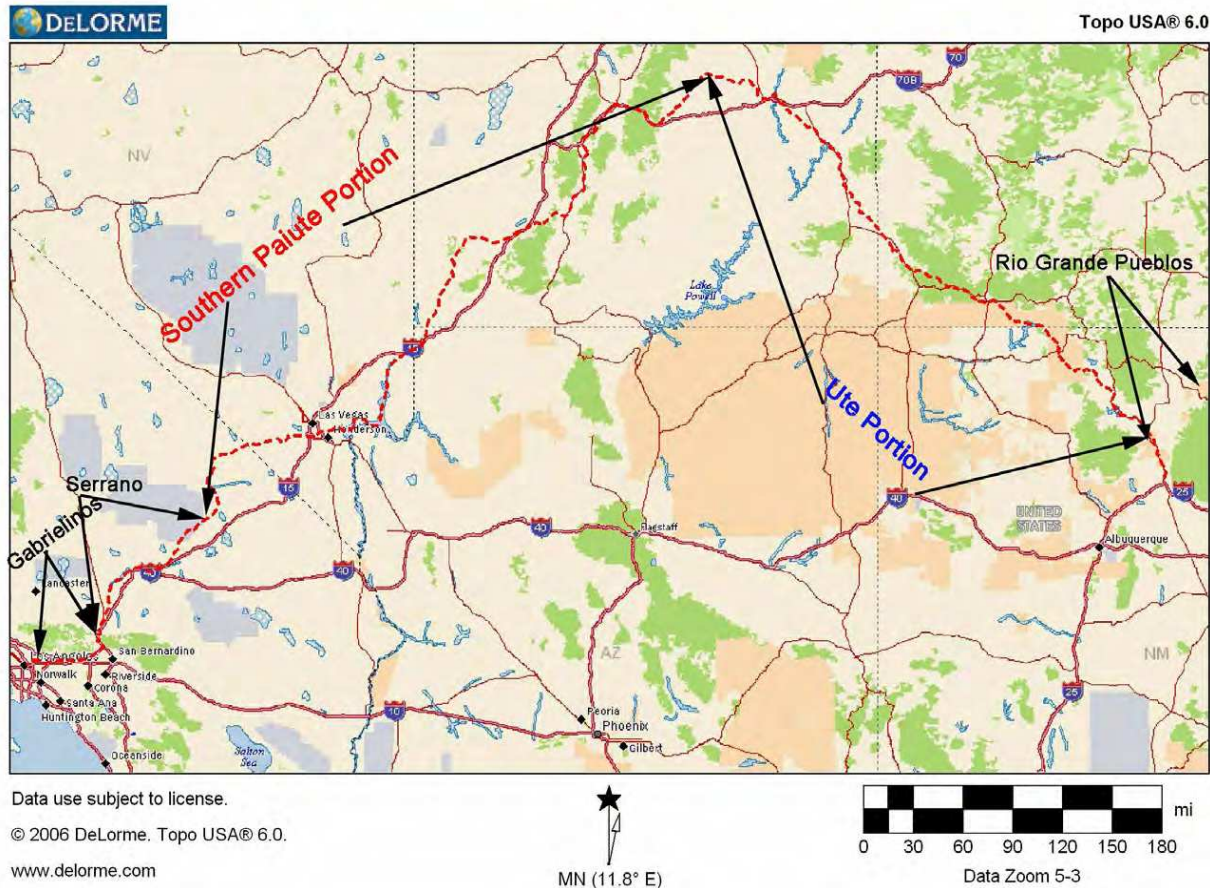
Dumont Dunes- This site should be nominated as a sacred site under Executive Order 13007.

Salt Spring- This site is protected as an Area of Critical Environmental Concern. This site should be nominated as a sacred site under Executive Order 13007.

Piute Spring- The tribes would like to take over management of this site in order to restore the environment both physically and culturally. They would also like to see steps taken to further protect cultural resources. This site should be nominated as a sacred site under Executive Order 13007.

5.2 Future Studies

During interviews with Indian people, recommendations were made in regards to future studies of the OST. Some recommendations were focused on involving other tribes and some were centered on re-visiting some locations for more in-depth study. The following is a list of requested studies:



Map 5.1 Cultural Affiliation of Segments of the Old Spanish Trail

Tribal Involvement and Corresponding Trail Segments:

Santa Clara Pueblo: Santa Clara Pueblo area

Ute Mountain Ute Tribe: Hesperus, Colorado to Green River Crossing, Utah

Ute Indian Tribe of the Uintah & Ouray Reservation: Green River Crossing, Utah to Castledale, Utah

Paiute Indian Tribe of Utah: Cedar and Indian Peaks Bands- the Cedar City, Utah area

San Manuel Band of Mission Indians (Serranos) and Chemehuevi Indian Tribe: Bitter Spring, CA

San Manuel Band of Mission Indians (Serrano): Bitter Springs, CA to Cajon Pass, CA

Gabrielino-Tongva Tribe: Cajon Pass, CA to Los Angeles, CA

5.2.1 Areas of Re-study:

The Solar Calendar- Southern Paiute representatives recommended that the pilgrimage trail, which starts at Veyo Hot Springs and follows along a portion of the OST to the Solar Calendar, be studied.

The Salt Cave- If funds were made available, a request has been made to take Southern Paiute Representatives back to the Salt Cave area. Representatives would like to have access to inside the cave to assess the damage that has occurred and to view what is left. Additionally, the Indian people would like to formally study the pilgrimage trail to the cave and discuss how ceremonial activities would have been disrupted by OST trading caravans.

Resting Spring- During the time of the initial study, Indian people and the UofA team could not obtain access to Resting Spring due to on-going construction projects. Southern Paiute representatives would like to return to Resting Spring to formally visit and document the site.

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APPENDIX A

SURVEY INSTRUMENT USED DURING THIS STUDY

**AMERICAN INDIAN ETHNOGRAPHIC RESOURCES
ALONG THE OLD SPANISH TRAIL**

*** NOTE: Please record a response for every question in order for answers to be comparable***

Interview Number: _____ **Tape Number** _____

1. Date: _____

2. Ethnographer _____

2a. Respondent's Name: _____

3. Tribe/Organization: _____

3a. Ethnic Group: _____

4. Gender: Male Female

5. Date of Birth: ___/___/___

5a. Age _____

6. Place of Birth (Town, Reservation): _____

6a. U.S. State of Birth _____

7. Study Area Site Number (ethnographer fill this in): _____

8. What is the name of this place in English?

8a. What is the name of this place in your native language?

Site Traditional Use

9. Would Indian people have been attracted to this place, as it existed traditionally?

1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

9a If answer Yes or Maybe, then what was attractive to them?

10a. How would Indian people have used this area?

1= [permanent] LIVING 2= HUNTING 3= [seasonal] CAMPING 4= CEREMONY/POWER 5= GATHERING RESOURCES 6=
OTHER 8= Don't Know 9= No Response

10b. Comments on 10a:

PLACE FEATURES

11. What resources would Indian people traditionally use at this site?

Feature Type	1= YES	2= NO	List and Describe the Use each specific feature
Source for Water			
Source for Plants			
Source for Animals			
Evidence of Previous Indian Use e.g.- rock markings, historic structures, rock art			
Geological Features e.g.- mountain, spring, landmarks, minerals			

Old Spanish Trail –Impacts to the Site:

12. When Non-Indians began traveling through this place, did their presence affect the Indian people who used this area?

1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

13. If answer Yes or Maybe, then how were local Indian people impacted?

14. What impacts, if any, did presence of the Non-Indian travelers have on the resources at this site that you identified earlier?

1. Water 1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

2. Plants 1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

3. Animal 1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

4. Traditional Use Feature 1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

5. Geological Features 1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

Old Spanish Trail- Local Landscapes

15. Are there places traditionally used by Indian people near by that are connected to this place?

1= Yes 2=No 3=Maybe 8=Don't Know 9=No Response

15a. If yes or maybe, what are those places and how were they traditionally connected to this place?

16. Were these nearby Indian places impacted by the presence of Non-Indian travelers on the Old Spanish Trail?

1= Yes _____ 2=No _____ 3=Maybe _____ 8=Don't Know _____ 9=No Response _____

If yes or maybe, what were those impacts?

17. If Indian people could no longer use this place and nearby places in a traditional way because of the presence of Non-Indian travelers on the Old Spanish Trail, did the Indian people go somewhere else to replace activities formerly done here?

1= Yes _____ 2=No _____ 3=Maybe _____ 8=Don't Know _____ 9=No Response _____

17a If yes or maybe, where did they go?

17aa Why did they choose that alternative place?

18. Is this place connected by traditional Indian trails?

1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

18a. If yes or maybe, what trails or kinds of trails connected with this place

1=Song Trails,

2=Trade Trails,

3=Ceremonial Trails,

4=Trails to resource areas,

5= Trails to settlements,

6= Other Trails

18aa. Were these connected Indian trails impacted by the presence of Non-Indian travelers on the Old Spanish Trail?

1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

If yes or maybe, how were these trails impacted?

19. If Indian people could no longer use these trails in a traditional way because of the presence of travelers on the Old Spanish Trail, what did Indian people find another trail to replace it?

19aa Why would they choose that specific route?

General OST Impact Review

20. Now that we have visited and talked about this place do you have any other comments about it or the impacts of Non-Indian travelers on the Old Spanish Trail?

1= Yes _____ 2=No _____ 3= Maybe _____ 8=Don't Know _____ 9=No Response _____

21. What else, if anything, do you remember about presence of the Non-Indian travelers on the Old Spanish Trail?

22. Do you believe the Non-Indians were actually traveling on Indian Trails which then came to be called the Old Spanish Trail?

23. When Non-Indians traveled on the Old Spanish Trail did change the lives of Indian people or condition of their natural environment?

24. How did Indian people first respond to the presence of Non-Indian travelers?