UNIVERSITY OF UTAH

Department of Anthropology

ANTHROPOLOGICAL PAPERS

NUMBER 30 MARCH, 1958

(Glen Canyon Series Number 1)

The Glen Canyon Survey in 1957

By ROBERT H. LISTER

ROBERT ANDERSON, *Editor*

UNIVERSITY OF UTAH PRESS

SALT LAKE CITY

UNIVERSITY OF UTAH ANTHROPOLOGICAL PAPERS

The University of Utah Anthropological Papers are a medium for reporting to interested scholars and to the people of Utah research in anthropology and allied sciences bearing upon the peoples and cultures of the Great Basin and the West. They include, first, specialized and technical record reports on Great Basin archeology, ethnology, linguistics, and physical anthropology, and second, more general articles on anthropological discoveries, problems, and interpretations bearing upon the western region, from the High Plains to the Pacific Coast, insofar as they are relevant to human and cultural relations in the Great Basin and surrounding areas.

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FOREWORD

The paper by Robert H. Lister of the University of Colorado which follows is the first published result of the archeological salvage project for the upper Colorado River Basin. The project, of which Jesse D. Jennings is director, is being accomplished by the University of Utah under a contract agreement with the National Park Service, and its purpose is the recovery and study of the remains of aboriginal American peoples and cultures which would otherwise be lost forever under waters to be impounded by the Glen Canyon dam.

Forthcoming reports of the salvage project will be published in the University of Utah Anthropological Papers as a series within a series, bearing numbers in the general sequence of the Papers in addition to their own identifying numbers. Inasmuch as the contract between the National Park Service and this University provides for a study of the natural history of the Glen Canyon area as well as its human history so that the relationships of the prehistoric cultures and their setting may be understood in depth, the Glen Canyon subseries will be broader in scope than that of the parent series. Other monographs not directly related to the Glen Canyon project but furthering the general purposes of the University of Utah Anthropological Papers will continue to be published.

Acknowledgment is made of the editorial assistance of Mrs. Mildred Treacy, secretary of the Department of Anthropology, and the work of James H. Gunnerson, curator of the Museum of Anthropology, in preparation of illustrations for this survey report.

Robert Anderson, Editor

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INTRODUCTION

The area adjacent to the right bank of the Colorado River between Wahweap Creek and the Escalante River has not been studied archeologically. Difficulty of access, a dry, hot climate, sparse vegetation, and a scanty water supply have limited archeological study of this region to brief visits by scientifically trained investigators. There are no published reports upon the archeological remains of the area.

Those portions of the area lying lower than 3680 ft. above sea level will be flooded by the Glen Canyon reservoir to be formed in Utah and Arizona by construction of the Glen Canyon dam on the Colorado River. In June of 1957 an agreement was reached between the University of Utah and the National Park Service (contract #14-10-333-215) establishing an archeological salvage project for the upper Colorado River Basin including the area outlined above. In July, 1957, a second contract (#14-10-333-235) enlarging the original agreement was signed. The project includes the salvage of ecological and historical as well as archeological data. This report is concerned only with the archeological salvage part of the project, and more specifically with the 1957 survey aspect of the archeological investigations.

The survey operation began on 22 June, 1957, and concluded 5 September, 1957. The survey, as outlined in a letter dated 20 June, 1957, from Jesse D. Jennings, Project Director, was to be "...concerned with the location of all sites threatened with inundation by waters of the Glen Canyon reservoir from the Escalante drainage to the Wahweap drainage (on the right bank of the Colorado River). (The survey was)...to concentrate upon the survey of and the locating of all archeological sites in the area outlined. The first responsibility is toward the sites actually jeopardized by flooding. Sites which come to your attention above the full pool level should be located and recorded." Recommendations also were to be made as to which sites examined warranted additional testing or intensive excavation. An excavation crew began work on designated sites 22 July, 1957, and continued the excavation program until 27 October, 1957.

Reporting upon the results of this survey presents somewhat of a dilemma. Since we consider the survey as merely the first phase of an archeological program, and one which is being followed up by archeological testing or complete excavation of promising sites, it is foolish to attempt to draw extended conclusions from the survey activities. Certainly more detailed and meaningful information will be gained from the excavation program. Obviously, site descriptions and specimens collected during the course of the survey will in most cases fail to reveal the complete cultural contents and temporal sequences which will become known through more thorough investigation. Through excavation of selected sites, a sample adequate to give a complete picture of the archeological resources of the area and their cultural affiliations with adjacent areas should have been obtained.

On the other hand, many of the sites we have recorded do not warrant additional investigation. Yet they will be inundated by waters of the Glen Canyon reservoir and the survey report upon such sites becomes the final report.

Because of the above conditions, it has been decided that this report will be directed toward presenting a general descriptive account of the area concerned, the techniques utilized and the problems encountered in accomplishing the survey, and observations upon and impressions gained from the sites examined. Such observations and impressions herein outlined are, of course, subject to revision once the results of the excavation program become known. Recommendations relative to the excavation and stabilization of particular sites also will be included. Furthermore, in order to locate and to describe the sites surveyed, particularly those which are not of enough importance to require excavation, a tabulation of sites is appended. Copies of the original survey sheets, maps, and other field data, as well as all specimens collected, are available to qualified scientists, at the Department of Anthropology, University of Utah.

Survey work during the summer of 1957 was confined to the right bank drainages and environs of the Colorado River between the Glen Canyon damsite and the Escalante River. The main canyon of the Colorado River was not included in our assignment. The following areas were investigated (Fig. 24): Wahweap Creek, Warm Creek, Cottonwood Wash, Gunsight Canyon, Navajo Canyon, Kane Wash, Last Chance Creek, Rock Creek, Cottonwood Gulch, Llewellyn Gulch, and the Escalante River with its tributaries: Indian Creek, Clear Creek, Davis Gulch, Soda Gulch, Willow Gulch, Fence Canyon, Cow Canyon, Peters Creek, Coyote Gulch, and Stevens Canyon. Furthermore, the terrace along the right bank of the Colorado River between the damsite and Rock Creek was examined. Navajo Valley and a few unnamed tributaries of the Colorado between Rock Creek and Cottonwood Gulch were not examined, but were checked in October by a party from the Museum of Northern Arizona when it continued its survey of Glen Canyon by boat.

In addition, a short reconnaissance was made of a portion of the Kaiparowits Plateau. Although this plateau will not be covered by waters of the Glen Canyon reservoir, access to it will become immensely easier once water rises to its southern slopes. Ease of access could bring about large scale looting of the numerous sites existent there. From a scientific point of view it appears that the problems of prehistory of much of the area we have surveyed are linked with the Kaiparowits Plateau, apparently the cultural center of the area.

THE AREA INVESTIGATED

The area surveyed during the summer of 1957 lies mostly in Kane County, southern Utah, but includes small parts of Garfield County, Utah, and Coconino County, Arizona. Its south and southeast boundary is formed by the Glen Canyon of the Colorado River; its west boundary is the Wahweap drainage; on the east the Escalante River forms the boundary, and on the north and northeast the full pool level of the Glen Canyon reservoir (3700 ft. contour line) was followed. The northern boundary is very irregular, resembling a series of fingers extending generally north up each tributary from the Colorado River.

The distance along the Colorado River from the damsite to the mouth of the Escalante River is approximately 75 mi. Waters from the reservoir will back into the tributaries for varying distances, depending upon the length and depth of the tributary and its proximity to the damsite. The tributary within our survey area which will contain the greatest amount of water is the Escalante River, where the reservoir will extend almost 33 mi. into the Escalante Canyon.

The region is a large expanse of canyons, mesas and plateaus which is utilized as undeveloped grazing land by a sparse population living almost entirely outside the area. The only settlements in the area are those recently established near the damsite.

Two roads furnish access. One, a dirt road, leads from Escalante, Utah, south to the famous Hole-in-the-Rock crossing, located on the Colorado River, a short distance downstream from the mouth of the Escalante River. From this road we were able to drive jeeps or ride horseback to the Escalante River, Llewellyn Gulch, Cottonwood Gulch, and the Kaiparowits Plateau. Rock Creek and the lower portion of Last Chance Creek were reached on horseback by crossing the Kaiparowits Plateau and descending into Rock Creek. To gain entrance to the area immediately upstream from the damsite one can drive southeast on the highway, now under construction, from Kanab, Utah, to Glen Canyon. A dirt road leads from this highway at a point near the Wahweap airstrip to the mouth of Kane Wash. A jeep trail connects these two roads by way of Warm Creek, upper Last Chance Creek, Rees Canyon, and Collett Wash. The upper end of the Last Chance drainage was approached by this route.

Topographically, the area under consideration forms part of the Colorado Plateau province. The outstanding features are terraced plateaus, cliff-bounded mesas, monoclinal ridges, and straight-sided canyons -- all impressive for magnitude and ruggedness. The land forms have been sculptured on so enormous a scale that features in the landscape unnoticed here would be prominent and picturesque landmarks in other surroundings.

The highest landform in the region is the Kaiparowits Plateau, whose westward tilted top has an altitude of over 7000 ft. for a distance of about 50 mi. But so marked are the differences in elevation that the Escalante River, lying only 12.5 mi. from the east rim of the Kaiparowits Plateau, flows in a channel bed lower than 4000 ft. and Glen Canyon itself is cut to depths below the 3000 ft. contour line. Directly across from the Kaiparowits is Navajo Mountain, which reaches 10,416 ft. in elevation. Immediately to the west and north are the high plateaus -- the Paunsaugunt (9500 ft.) and the Aquarias (10,900 - 12,250 ft.) -- the highest landforms in southern Utah. For the region as a whole, changes in altitude are abrupt; gentle slopes are rare. Above the valley floors the plateau benches rise by steps, bench after bench, and into the benches the streams are cut. Most of the benchlike platforms terminate in cliffs hundreds of feet in height.

All of the topographic features of the area surveyed have been developed in sedimentary rocks. In general the surface slopes of the region extend from the high plateaus southeastward to the Colorado; down these slopes the water is carried in bare rock canyons. The characteristic stream of the region is an intermittent one, which usually flows for only short distances along its course but which becomes continuous after seasonal rains and local showers. The influence of the semiarid climate shown by the streams is reflected likewise in the soil and vegetation. There are no large areas of dunes, but sand is piled here and there in and beyond the stream channels. There are no areas of desert in the sense of stretches of salt and alkali, but the lower Escalante valley (or desert as it is known locally) and most of the country between Wahweap and Rock creeks are without water and show sparse and specialized vegetation adjusted to sterile soil and low rainfall. The canyon walls, the faces of mesas and buttes, and expanses of rock many square miles in area seem remarkably devoid of vegetation. These windswept surfaces are so bare that green tints resulting from plant covering occur only on the tops of the high plateaus or in places along the creek beds. The conspicuous colors seen are the colors of the rocks themselves -- red, brown, yellow, and white, with occasional banks of dark gray.

Generally speaking, the climate of the area is very dry. Snow falls on the Kaiparowits Plateau at any time between 15 September and 15 May, and may lie for weeks or months. On the lower lands drained by the Escalante, Wahweap, Warm Creek, and other streams adjacent to the Colorado, snow rarely remains long enough to interfere with grazing. For most places along Glen Canyon, and in the lower parts of the drainages tributary to the Colorado, the rainfall is low -- probably less than 5 in. As the Colorado tributaries are ascended the rainfall increases, but almost nowhere does it exceed 10 in. annually. The period of July, August, and September is normally the season for maximum precipitation. The characteristic rainstorm is a hard local shower. Precipitation for an entire

month may be the result of but an hour's rain. Such showers may pour large quantities of water on the ground, causing flat surfaces to become lakes and dry washes to run torrents. Plants, however, obtain only a portion of this moisture, for evaporation is most effective during the hot summer days. Clear skies prevail over 80 percent of the time.

Annual and daily ranges of temperature are great. During the summer temperatures that exceed 100° F. are common; however, except within some of the deep canyons, temperatures below zero are normal in December, January, and February. Nearly every year the Colorado River in Glen Canyon freezes over in places. High ranges in annual temperatures are accompanied by great daily changes. Ranges of 50° F. are not unusual. During the summer months, the heat of the day may interfere with field work but at night blankets are a necessity for comfortable sleeping. Fortunately, the high temperatures and great daily range are accompanied by dry air. In the sun the heat of summer is intense; but in the shade of a rock or tree coolness prevails. The line between scorching heat and fairly cool temperature is drawn at the edge of the shadow.

Soil, in the true sense of the word, is rare in the area. On flat-topped mesas and plateaus the soil, weathered from the underlying rock, forms a thin mantle, but even here the soil cover is not continuous. On the plateau edges the areas of disintegrated shale and sandstone have no agricultural value. In general the conditions are unfavorable for making and retaining soils. Scanty vegetation, absence of sod, sudden showers, and rapid runoff favor removal of the soil as rapidly as it is formed. Large areas of bare rock are exposed. Most of the soil that is present in this region is transported soil. It has been brought to its present position by streams and wind. Some depressions on the surface and some rock cracks have been filled by debris washed from nearby places. A number of former canyons and tributary valleys have been partially filled with stream-borne debris, and a few flat floored valleys are flanked with soil deposited at high-water stages. Similar soil is displayed in alluvial cones along valley sides and in the roots of ancient terraces that cling to canyon walls. Eolian soils in the form of dunes are displayed here and there at the bases of cliffs, on open flats, and within canyons.

The majority of such soils as the region affords is derived from rocks that are deficient in minerals needed by plants. The sandstone and sandy shale along Glen Canyon and the lower Escalante are prevailingly quartose and therefore poorly supplied with plant foods. The formations that constitute the upper half of the Kaiparowits Plateau contain a higher proportion of desirable minerals, thus producing a more fertile soil.

Early and recent travelers alike in southern Utah have been impressed by the great scantiness of the plant cover. It has been estimated that for the region as a whole, including the plateau tops, cliffs, and canyon walls, vegetation covers only 20 percent of the surface. The plant zone present throughout our area, with the exception of the Kaiparowits Plateau, is referred to as the zone of cottonwood, cactus, and yucca. Within this zone vegetation is everywhere sparse. In Glen Canyon and its northern tributaries, the Escalante, and along the streamways draining south from the Kaiparowits Plateau, yucca and cactus occupy the few talus slopes and cling to the walls; willows and tamarisk grow on exposed sand bars; cottonwoods stand on high level terraces at the mouths of tributary streams, where scrub cedar, oak, box elder, Brigham tea, rabbit bush, hackberry and greasewood are also found. Vines in the canyons include poison ivy, Virginia creeper, and clematis. Grass of several varieties appears as detached tufts among boulders, on rock cracks, and on arrested sand dunes. Moss and ferns watered by seeps form green spots on red sandstone walls.

At the top and on the flanks of the Kaiparowits Plateau the dominant vegetation consists of continuous forest, scattered patches, and individual trees of pinyon and juniper, together with vigorously growing sagebrush. With these dominant forms are many of the plants represented at lower altitudes, and within this zone are some groves of yellow pine and aspen, characteristic of higher elevations. Service berries, mountain mahogany, oak, and wild cherries also occur.

Indigenous animals of the area include a number of rodents such as field mice, chipmunks, ground squirrels, and the nocturnal desert rat (pack rat). Coyotes and cottontail rabbits are still periodically present in numbers. Porcupines, badgers, and woodchucks live in forested areas. Colonies of beavers are at work near the mouths of many of the creeks and in Glen Canyon. It is reported that otter, deer, and mountain sheep were plentiful during the 19th century. Deer are still very numerous upon the Kaiparowits; even bear, wildcats and mountain lions are still reported there. Snakes and lizards appear on the lower, drier lands. But reptiles are here much less common than in regions south of Glen Canyon. A variety of insects, including crickets, spiders, mosquitoes, ants, and several kinds of flies occur. Occasionally centipedes, scorpions, and tarantulas are observed.

Structurally, the dip of the rocks of the area is gently southwestward from the crest of the Waterpocket Fold, a prominent monocline east of the Escalante River. Superimposed upon this sloping base is a series of anticlines and synclines, oriented generally northwest-southeast, causing local variation in the topography.

Beds assigned to the Glen Canyon group (Lower Jurassic) might be considered the bedrock of the area. This formation lies beneath the high standing mesas, mounds, and domes that dominate the landscape, and upon it rests the Kaiparowits Plateau. The canyon of the Colorado River, the lower Escalante River canyon, and the lower reaches of most tributaries of the Colorado between Wahweap and the Escalante are cut into the Glen Canyon group. Navajo sandstone, a prominent member of the group, is exposed in most of the deep canyons. It is a highly cross-bedded sandstone, varying in color from light, creamy-yellow to reddish-brown. It weathers in high cliffs and innumerable caves, towers, and domes. It forms caves, alcoves, and natural arches. In places along the bank of the Colorado, Navajo sandstone is also exposed as a bench of varying width.

Resting upon the Glen Canyon group, and forming a terrace above the Colorado River, is the Carmel formation (Upper Jurassic) sandstone that weathers into badlands and low cliffs. Above this the brightly variegated, high, unscalable walls of projecting spurs and detached mesas are formed of Entrada sandstone (Upper Jurassic) and the Morrison formation (Lower Cretaceous). Entrada is tan, light red, and brown in color. It is a massive, even-grained, cross-bedded sandstone which weathers into dome-shaped structures and round-edged cliffs generally grooved along bedding planes. Seldom do caves occur in its exposures. Above the Entrada, the Morrison formation consists of sandstone, conglomerate, and variegated shale. In many places it appears as one massive bed -- gray, white, or yellowish brown. In weathering, it commonly presents a single unit that forms an essentially vertical cliff with numerous projecting joint plane and fracture faces. It is the upper formation throughout much of the area under consideration.

The Kaiparowits Plateau, rising to an elevation higher than any of the surrounding terrain, has exposures of several formations of Upper Cretaceous age -- Dakota sandstone, Tropic shale, and Straight Cliff sandstone. The latter forms the escarpment near the top of the plateau.

The predominance of high lying plateaus and mesas bordered by lofty cliffs favors the emergence of ground water. Innumerable canyon walls provide an exit for water in bedding planes and zones of jointing, and much water seeps through the massive sandstones. Water from seeps or springs in walls of Navajo sandstone proved to be "sweet" and drinkable. However, water from the Morrison formation proved to be so highly mineralized as to be unpalatable. On the top of the Kaiparowits Plateau several excellent springs flow from the Straight Cliff formation.

METHODS

The archeological survey was accomplished by a mobile party varying in number from three to six individuals at different times during the season. Members of the crew who served all or part of the summer were the field supervisor, Robert H. Lister, professor of anthropology, University of Colorado, and four research assistants: Charles F. Hayes, III, graduate student in anthropology, University of Colorado; Richard K. Graham, undergraduate student in anthropology, University of Utah; Wilford K. Wiseman, former student in anthropology, University of Utah, and Edson Alvey, Escalante, Utah. Horse wranglers and guides were Loyd Gates, Cecil Griffin, Jerry Roundy, and Lindsey Wilson, all of Escalante.

The survey party was completely outfitted at the Department of Anthropology, University of Utah, and left Salt Lake City for the field in two four wheel drive Willys station wagons on 22 June. Field headquarters were established at Escalante. For three weeks, whenever the party was in town, a camp was set up 4 mi. south of Escalante on the farm of George Spender. Thereafter, for the remainder of the summer, quarters serving as field office, laboratory, and warehouse were rented in Ruby's Motel, Escalante.

Escalante, a small Mormon community of 700, proved to be a very satisfactory center for supplies, laborers, guides, and pack animals. Many of the townspeople became much interested in our project and furnished us invaluable assistance on numerous occasions. Telephone connections between Escalante and Salt Lake City, and daily mail service to Escalante, made for easy communication when the party was in Escalante. The survey schedule was planned so that the field party returned to Escalante at least every two weeks. Fresh supplies of food, water, and gasoline were obtained, and survey notes and necessary administrative reports were completed and mailed at such times.

Two aerial reconnaissances of the area were made in planes chartered from the Wright Flyte Service, Flagstaff, Arizona. One plane trip was taken prior to any field work in order to become familiar with the topography of the area, and to locate roads, jeep trails, and sources of water. A second flight was made in midsummer to allow for a more thorough examination of the regions which had not been surveyed by that time, and to take aerial photographs of some of the terrain.

The Willys station wagons were used to transport personnel and equipment. They were able to negotiate many of the poor roads and trails and some of the desert terrain. A universal four wheel drive jeep with winch was used part of the summer to drive over very rough, sandy country and through narrow, winding creek beds. Over half the survey, however, was carried out with the aid of pack

animals. The Escalante drainage, Cottonwood Gulch, Rock Creek, the lower end of Last Chance Creek, and sections of the Kaiparowits Plateau were so worked. Normally pack animals were used to transport food and equipment and personnel walked; on rare occasions enough horses were obtained for all crew members to ride.

Regardless of whether travel to work locations was by jeep or horseback, the actual survey operations were conducted on foot 95 percent of the time. Only on foot could we gain access to narrow streambeds, deep canyons, benches, plateaus, cliffs, and extremely sandy stretches that had to be examined. Each member of the crew carried a back or shoulder pack in which he placed his survey equipment -- camera, map, survey sheets, compass, collecting bags, etc., as well as a lunch and first aid kit. Belt canteens were a necessity.

Standard archeological procedures relative to the preparation of survey sheets, photographic data, and site collections were followed.

SUMMARY OF EACH DRAINAGE

Wahweap Creek

Wahweap Creek is the first tributary to join Glen Canyon above the damsite. It is an extensive drainage system, heading up northwest of Nipple Bench, approximately 26 mi. from the point where it joins the Colorado River. Numerous small tributary creeks lead into Wahweap from the north, west and east. It is an intermittent stream which carries bitter running water in the spring and after rain storms during the summer.

Water will back up Wahweap Creek to Wiregrass Spring, a distance of about 12 mi. from its mouth. At Wiregrass Spring the Wahweap Creek bed meanders through a 1/2 mi. wide canyon with 100 ft. cliffs. Narrow tributary gulches cut into the canyon especially from the north, Lone Rock Canyon being the longest of these. In the vicinity of Lone Rock, a prominent rock butte standing in the canyon bottom, Wahweap Canyon widens to over 2 mi. and the cliffs on the north become much higher. The lower 4 mi. of the creek bed are deeply entrenched in a narrow, high-walled canyon which is over 300 ft. deep near the Colorado River. A small stream of water flows through the lower canyon.

The upper, wider portion of the canyon covered by the survey is very sandy, with occasional dunes of sand. It is sparsely covered with greasewood, bunch grass, and Russian thistle. Along the stream bed, which is cut into the canyon floor 3 to 15 ft., there are tamarisk and a few cottonwoods. The lower, narrow part of the canyon has a rock and sand floor.

The geological formations exposed from Wahweap Creek on the west to Rock Creek on the east are all sandstones. Glen Canyon is cut into Navajo sandstone; the fairly flat terrace adjacent to Glen Canyon is Navajo and Carmel sandstone; and the cliffs and mesas consist of Entrada sandstone capped by the Morrison formation.

It was possible to drive a jeep through the canyon with the exception of the lower 1 1/2 mi.

Four archeological sites were recorded in Wahweap Creek. One, 42Ka246, was a fairly extensive chipping and camping area west of Lone Rock in the sand dunes. The other three sites were small rock shelters on the left bank of the narrow canyon between 3 1/2 and 4 mi. from the mouth of the creek. They contained potsherds as well as lithic material. No sites worthy of excavation were encountered.

Warm Creek

The Warm Creek drainage is adjacent to Wahweap on the east. It also is a fairly long drainage system, heading on the western slope of Smoky Mountain, at least 15 mi. north of its mouth. It is an intermittent stream, flowing in a southeasterly direction. Like Wahweap, Warm Creek, because it drains a good sized area, frequently carries a head of water during the summer months.

The pool created by the Glen Canyon dam will reach approximately 12 mi. into Warm Creek canyon. The upper portion of the canyon in which water will back up is less than 1/4 mi. wide and flanked by 100 ft. cliffs. Downstream the canyon widens gradually, and the cliff walls become much higher. Short tributary canyons enter from east and west. Where the creek reaches the terrace adjacent to the Colorado River, the canyon is over 3 mi. wide. Once Warm Creek reaches the Colorado River terrace it entrenches itself into a deep, steep-sided canyon for a distance of about 5 mi. before flowing into the Colorado River. There is a permanent stream for a short distance in the lower canyon.

The upper and lower sections of Warm Creek, where the canyon is narrow, have sandy, rocky bottoms with some stream side vegetation of tamarisk and willows. In the wider portions of the canyon, the stream bed is cut into the canyon floor 4 to 30 ft. deep. In places it is bordered by low cliffs. Between the stream bed and the high cliffs to the east and west the canyon floor rises in a series of dune covered terraces. Sparse vegetation of greasewood, Russian thistle, and an occasional bunch of grass covers these terraces and dunes. A few cottonwoods grow along the stream bed, as well as tamarisk and willow.

By driving in the creek bed, all but the lower 3 1/2 mi. of Warm Creek could be covered by jeep.

Five archeological sites were located in Warm Creek, all upstream from the narrow, lower section of the canyon. Four are located within a few hundred yards of the creek bed and appear to have been camping places situated either in the open or adjacent to shallow rock shelters. A fifth site, of but little consequence, was found in a rock shelter in a tributary gulch east of the creek. One site, 42Ka254, located 3/8 mi. north of the ruins of a group of historic stone buildings, warrants additional testing. An amateur collector living at Wahweap airstrip, Steve Rupe, has dug several pits into this site, revealing cultural deposits at least 2 ft. deep in places. Lithic material, potsherds and animal bones, as well as charcoal and ash, were exposed in his diggings. While an excavating crew is in Warm Creek, it is also suggested that sites 42Ka252 and 42Ka253 be examined. Both are located short distances north of 42Ka254.

Cottonwood Wash

Cottonwood Wash contains an intermittent stream tributary to Warm Creek on the east. It drains a small area of the Colorado River terrace, joining Warm Creek about 3 mi. from the mouth. The wash is cut into sandy terrain of scant vegetation. Cliffs 300 to 400 ft high mark its northern limit. Water will reach almost to the cliffs. Cottonwood Wash was surveyed on foot by walking from the Crossing of the Fathers road.

One site, 42Ka247, was recorded in Cottonwood Wash. It was a small campsite on a high sand dune near the high cliffs. It is not worthy of additional investigation.

Gunsight Canyon

The next canyon to Cottonwood Wash on the east is Gunsight. It heads at the southern end of Smoky Mountain, and is bordered by high cliffs on the east and west. The eastern cliff terminates on the south in the prominent landmark, Gunsight Butte. Like all of the creeks in this area, once Gunsight Creek reaches the Colorado River terrace it cuts through the Carmel sandstone into Navajo sandstone, forming a deep, narrow canyon. The stream is intermittent. The total length of Gunsight Canyon is approximately 8 1/2 mi. Water will back up into it about 7 mi. At the high water line and downstream for a distance of about 4 mi. the canyon varies from 1/2 to 1 mi. in width and the bordering cliffs are 300 to 400 ft. high. Several short tributaries come in from the west. As mentioned above, the creek flows through a deep, narrow gorge on the Colorado River terrace.

Vegetation is similar to that described for Wahweap and Warm Creeks. Where the canyon is narrow at the south there is very little vegetation in the creek bed. However, to the north, where the canyon widens, the creek bed is cut into the canyon floor and has a scattering of tamarisk and willows along the banks. Sandy terraces with sparse vegetation adjoin the creek and extend to the cliffs. The upper portion of Gunsight Canyon, almost to the limit of high water, could be negotiated in a jeep.

Only two archeological sites, one a small camping area on a bar adjacent to the creek bed and the other a rock shelter containing several poorly preserved storage structures, were encountered during the survey. No additional work is recommended at either site.

Navajo Canyon

Continuing east, Navajo Canyon, locally called Padre Creek, is next. When water from the Glen Canyon dam reaches full pool stage it will cover almost the entire 6 mi. length of Navajo Canyon. The head of Navajo is a narrow, deep box canyon located just south of Smoky Mountain. It widens to about 1 mi. just before reaching the Colorado River terrace. Navajo Creek, intermittent except for the lower mile of its course, where it is a beautiful small stream, is bordered by sandy terraces in the upper part of the canyon. It has cut a gorge 150 to 200 ft. deep in the Colorado River terrace.

Near its mouth, where the stream is permanent, there is a dense growth of reeds, cattails and willows. Upstream, the creek bed is bordered by tamarisk, willows and a rare cottonwood. The terraces have but little vegetation.

About 2 mi. of the creek bed above the Crossing of the Fathers road was traversed by jeep and the remainder was surveyed on foot.

One archeological site, a rock shelter which appeared to have been used as a camping place, was found in the cliff on the left side of the canyon about midway along its upper, wider stretch. No further work is necessary at the site.

Kane Wash

Kane Wash drains an area approximately 3 by 4 mi. in extent situated on the Colorado River terrace. The area at its mouth is known as the Crossing of the Fathers, although it now appears that Father Escalante and his party (after whom the crossing is named) actually crossed the Colorado at the mouth of Navajo (or Padre) Creek just to the west. Kane Creek has three forks. Each heads in a steep-walled canyon, and all three will be under water when the reservoir is created. Each of the forks has cut a gully into the sand and rock terrace and after the streams come together they flow through a deep gorge for a short distance before reaching the Colorado. At the time of our visit, a small stream flowed through the lower part of the gorge. Vegetation throughout the area drained by Kane Wash is very scant, reflecting the poor condition of the soil. Dunes are found in many places.

All of Kane Wash was surveyed on foot, working from the vicinity of the Crossing of the Fathers. Two small areas strewn with stone chips were noted. Neither site was significant, and no further investigation is recommended.

Last Chance Creek

The Last Chance drainage occupies a syncline lying between two more elevated areas -- Smoky Mountain on the west and Grand Bench on the east. It is a long drainage, extending northwest from the Colorado River over 40 mi. to a spur of the Kaiparowits. Little Valley Canyon, a northern tributary, joins Last Chance about midway of its course. Last Chance Creek is an intermittent stream, which was flowing a small head of water in places when visited this summer.

Water from the Glen Canyon reservoir will back into Last Chance Canyon about 13 mi. and up Little Valley Canyon about 5 mi. The upper 3 mi. of Last Chance to be covered by water is not over 1/8 mi. wide and is very winding, with walls 100 to 200 ft. deep cut into Entrada and Morrison formations. Below this section (the Narrows as it is called locally), the canyon widens gradually until it is over 1 mi. wide in most places. Numerous finger-like box canyons, each about 2 mi. in length, project from Last Chance into the higher regions to the east and west. The walls of Last Chance below its narrow stretch, also those of the many adjoining box canyons, are extremely rugged and reach heights of 500 - 600 ft. The bed of Last Chance Creek is fairly shallow throughout most of the wider section of the canyon, but as it approaches the Colorado it has cut a narrow gorge. Most of the wider stretches of the canyon exhibit a poor, sandy soil with a scattering of grasses, greasewood, yucca, and Russian thistle. In places, the banks of the creek bed have thick growths of tamarisk.

A jeep was driven down into the narrow section of the canyon and the upper half of the drainage was covered on foot from that point. The lower reaches were surveyed on horseback by riding from Rock Creek around the bench above the Colorado and into the mouth of Last Chance. The most intense heat of the summer, as well as the smallest supply of drinking water, were encountered while working this area.

Only one archeological site was recorded in this drainage. It consisted of a few chips of stone and one fragmentary projectile point strewn along the base of a low overhanging cliff in the narrow part of the canyon.

Rock Creek

Rock Creek is a tri-forked drainage system carrying water from the southwestern end of the Kaiparowits Plateau to the Colorado River. The main canyon of Rock Creek is over 4 mi. wide at its head, which is approximately 11 mi. north of the Colorado. Downstream the canyon gradually narrows until it is only 1/2 mi. wide at the point where it is joined by its two eastern tributaries -- Middle Rock

and Dry Rock. From there the canyon widens to about 1 1/2 mi. along the lower 2 mi. of its course. The canyon walls of almost the entire drainage system, standing 400-500 ft. high, consist of massive red Entrada sandstone capped by the grayish Morrison formation. Only where the creek is deeply entrenched in a narrow cut for a short distance above the Colorado are there exposures of Carmel and Navajo sandstones. Like other creeks of the vicinity, Rock Creek is intermittent in its upper reaches. However, it flows as a continuous stream along its lower course in most years. Vegetation of the area is similar to that described for Last Chance Creek. Reservoir water will cover the lower half of Rock Creek and extend up each of the Middle and Dry forks for about 4 mi.

Access to Rock Creek is possible only by horseback. Our survey crew rode over the top of the Kaiparowits Plateau from east to west and descended into the head of Rock Creek. The entire drainage was surveyed on horseback.

Four archeological sites were encountered. One, 42Ka265, near the upper limit of reservoir water in the main Rock Creek canyon, was a fairly extensive campsite occupying the base of an overhanging cliff and an adjacent rock shelter. A large test hole in the shelter was probably dug by a party from the Museum of Northern Arizona, since a site survey number believed to belong to that institution is painted on the rear wall of the shelter. Three other sites were located near the junction of the three forks of Rock Creek. The principal features of each site were panels of pictographs and petroglyphs. No additional work at any of the sites is recommended.

Cottonwood Gulch

Cottonwood Gulch drains a small area at the southeast end of the Kaiparowits Plateau. It enters the Colorado River just below, and on the opposite side of the river from the point where the San Juan joins the Colorado. The main canyon is about 6 mi. long, and it has a western fork 2 mi. in length. All but the upper 2 mi. of the main fork, and the entire western fork, will be inundated by waters of the Glen Canyon reservoir.

The entire drainage is cut into Navajo sandstone to a depth of 500-600 ft. throughout most of its extent. The canyon is narrow, 1/8 to 1/2 mi. in width, and very winding. The scenery is spectacular. The canyon floor has deposits of waterlaid fill 20 - 40 ft. deep in many places. The present stream has cut its bed into this fill, or has completely removed it in some localities. On sandy bars, or on areas of canyon fill, numerous groves of large cottonwoods grow. Willows, tamarisk, and horsetail rushes also are present along the creek bed. A stream of good drinking water flows through the lower end of the canyon. Seeps and springs occur along the cliffs.

Access to Cottonwood Gulch was gained by pack train from a camp established at Soda Spring, near the southeastern end of the Kaiparowits Plateau. The survey of the canyon was conducted on foot.

As is typical of Navajo sandstone, many alcoves and shallow, arched-roof shelters are weathered into the cliffs. Some of these shelters were utilized as habitation sites or camping places by the Indians. Our survey located five archeological sites, and several promising looking shelters were inaccessible. All sites located were in the upper part of the drainage system, since the lower 3 mi. is very narrow and apparently unsuited for occupation. No excavation is recommended. However, one site, 42Ka231, should be stabilized. This is a cave which will undoubtedly be above the high-water line. Were the houses in the shelter to be stabilized, they would become a spot of scientific and historic interest to future boating parties.

Llewellyn Gulch

Llewellyn Gulch, like Cottonwood Gulch, drains a portion of the terrain at the southeastern end of the Kaiparowits Plateau. It heads near Fifty Mile Point and descends southeast 7 mi. before joining the Colorado River. Its mouth is about 7 mi. downstream from the mouth of the Escalante River. Llewellyn Gulch begins as a small gully at the foot of the Kaiparowits. By the time it has progressed about 3 mi. it has cut a narrow gorge 100 - 200 ft. deep into Navajo sandstone. Continuing downstream for another 2 mi. the canyon widens to 1/4 to 1/2 mi. For the final 2 mi. of its course, the 400 ft. high sides of the canyon are 1/2 mi. apart, but the stream bed is entrenched another 300 ft. into Todilto and Wingate sandstones. The Todilto forms a terrace on either side of the narrow gut of the canyon. A permanent stream of good, spring-fed water flows through the lower three quarters of Llewellyn Gulch. Considerable vegetation, including cottonwoods, willows, tamarisk, and rushes, grows on bars and remnants of alluvial fill that are present in the wider portions of the canyon. The narrow sections have rocky or sandy bottoms almost devoid of plant growth.

Llewellyn Gulch was reached by pack train from a camp at Soda Spring. The actual survey operations within the canyon were accomplished on foot.

Four miles of the lower end of the canyon will be flooded when the reservoir is created. Three archeological sites were located in this area. All were in rock shelters in Navajo sandstone, and all contained remains of houses or storage structures built of stone masonry. None of the sites warrant additional archeological testing.

Colorado River Terrace (Right Bank) between Wahweap Creek and Rock Creek

The right bank of the Colorado River between Wahweap Creek and Rock Creek, a distance of about 46 mi., was included in the survey. Essentially the area considered consisted of that country between the canyons of the eight drainage systems that have been described previously. Naturally, water will rise higher on the banks of Glen Canyon immediately upstream from the damsite than it will farther up the river. From the Glen Canyon damsite to Rock Creek, water from the reservoir will cover the right bank of the Colorado River terrace to the foot of the high cliffs that define and separate the drainage systems. High-standing mesas, plateaus, and domes on the terrace will protrude as islands when the reservoir water covers the terrace. Upstream from Rock Creek to the Escalante River the reservoir will be confined almost entirely to Glen Canyon proper and its tributary canyons.

The right bank, or terrace, of the Colorado considered in this survey is almost 5 mi. wide between Wahweap and Warm creeks; it diminishes to about 3 mi. between Warm and Kane, and is only about 1 mi. wide between Last Chance and Rock Creeks. Two formations, Navajo sandstone and Carmel sandstone, as well as thin veneers of wind and water borne soils, are exposed on the terrace. Glen Canyon is cut into the Navajo and, in places where there is no soil adjacent to the river, it is exposed as a bare rock bench. Carmel sandstone, however, forms most of the floor of the terrace. Low cliffs and erosional surfaces of Carmel are visible when it is not covered by sandy soil or dunes. This area is extremely hot and dry in summer. Flora and fauna are present in small number. Bunches of grasses, greasewood, Russian thistle, and sage are the predominant plants. A few lizards and rabbits were noted.

Part of the terrace was surveyed by jeep and from horseback, but the majority was covered on foot. The road from Wahweap airstrip to the Crossing of the Fathers furnished access to the area between Wahweap and Kane Wash.

Thirteen terrace sites were recorded. Seven of them were nothing more than little used campsites or localities where a small amount of stone chipping had taken place. Usually such sites, marked by an occurrence of stone chips and perhaps some broken stone artifacts and potsherds, were found on sand dunes. Two larger chipping areas were found on the terrace of the large bend of the Colorado below the mouth of Warm Creek. Next to the river there is a wide exposure of bare rock upon which great quantities of water worn cobbles are deposited. Many of these cobbles are of a siliceous composition, a type of rock from which stone implements may be readily fashioned. In two localities many of these cobbles were broken up and chipped for the purpose of tool making.

Four rock shelters located in low cliffs of Carmel sandstone were recorded. None were occupied for any length of time. It is not felt that any of the terrace sites are worthy of future archeological testing.

Escalante River

The Escalante River is a major tributary to the Colorado within the area to be covered by the Glen Canyon reservoir. It drains a large region from Aquarius Mountain on the north down through the Escalante valley and desert, the eastern side of the Kaiparowits Plateau, and the western side of the Waterpocket Fold. The river is one which flows continuously throughout the year. It is fed by a large number of tributaries, as well as by seeps and springs located in the Escalante Canyon proper. The flow of water in the canyon varies greatly, especially during the spring and summer, since the extensive water shed is effected by spring thaws and by hard local summer showers.

The lower portion of the Escalante Canyon is regarded by many as being more impressive than the Glen Canyon of the Colorado. The vertical walls of the canyon cliffs are equally as high as those of Glen Canyon, and the Escalante is more winding. Navajo sandstone is the principal formation exposed. Numerous arched-roofed shelters, as well as several spectacular natural arches and bridges, have weathered into its thick, red, cross-bedded exposures. Seeps and springs commonly occur in the Navajo. Todilto sandstone, lying beneath the Navajo, forms low terraces or ledges above the river bottom. Toward the mouth of the Escalante, the river has cut through Todilto to expose another red sandstone formation, the Wingate. Numerous short tributary canyons enter from the west and east.

Indicative of the meandering course of the Escalante River is the fact that water from the Glen Canyon Reservoir will back up into the Escalante Canyon a straight line distance of about 14 mi., but if the canyon bottom is followed, the distance is 33 mi. The lower third of that part of the Escalante surveyed is narrow -- between 100 and 300 yds. in width -- and is flanked by towering cliffs 500 to 600 ft. high. Between Soda Gulch and Cow Canyon, the middle of the area under consideration, the canyon widens perceptibly. In places it reaches a width of 1/2 mi. From Cow Canyon to just above Stevens Canyon, the upper limit of reservoir water, the canyon again becomes as narrow as it is near its mouth. Throughout all but the narrowest sections of the canyon the Escalante River bed is cut into a sandy canyon fill, resulting in low bars or higher terraces bordering the river. Periodic flood waters continually alter the course of the river and the deposits into which it is entrenched. Reservoir water will fill the lower Escalante Canyon and also cover the terraces on each side of the canyon for short distances. Above Cow Canyon water will be confined to the canyon proper.

On the sandy bars and terraces of the wider sections of the canyons, cottonwoods, tamarisks, and willows are found. The narrow, sandy stretches of the canyons support very little vegetation. Animal life in the lower Escalante and its tributaries is sparse. Lizards, toads, and frogs were the most frequently observed forms. Locusts, flies, wasps, and few mosquitoes were present. Only one snake was encountered. No rabbits were seen. Many of the rock shelters contained mountain sheep dung and an occasional partial sheep skeleton. It is generally believed that no mountain sheep are present in the area today, but local informants are of the opinion that a few of them may still roam the rugged canyons of the Escalante. In the past, they certainly were present in considerable number.

The nine tributaries of the Escalante -- Indian Creek, Clear Creek, Davis Gulch, Soda Gulch, Willow Creek, Fence Canyon, Cow Canyon, Peters Creek, and Coyote Gulch -- all contained good drinking water. Some of the narrower canyons contained series of beaver dams in their upper limits which made foot travel difficult because of the deep pools of water and dense vegetation along their edges. Almost all of the tributary canyons contained rock shelters and overhanging cliffs suitable for camp or habitation sites. Some of them had been occupied. Much of the spectacular scenery observed during the summer was in these canyons. In Soda Gulch there is Gregory Natural Bridge; in Davis Gulch, Moqui Window and Nemo Arch are located; and in Coyote Gulch, three arches exist -- Jug Handle Arch, Coyote Bridge, and Lobo Arch. One beautiful arch, Stevens, is located high on the rim of the Escalante near the mouth of Stevens Canyon.

The survey of the Escalante and its tributaries was accomplished on foot, with equipment and supplies carried by pack train. Access to the lower Escalante was by way of the jeep trail which leads from the Escalante -- Hole-in-the-Rock road to the gauging station headquarters on the rim of the canyon near Clear Creek. From there a foot and horse trail leads down into the canyon. On completion of the survey, which required almost three weeks, we came out of the canyon by way of Coyote Gulch to Willow Tank.

Sixty-four archeological sites were recorded during the Escalante survey; 14 of these were in the Escalante canyon proper, 50 were in tributary canyons. This area proved to contain a greater number of sites than any other covered by our investigations. Simple camp sites as well as rock shelters in which habitations had been built were present. Periodic occupation of several of the sites was apparent in places where erosion had exposed vertical faces in the shelter deposits. Several sites near the head of Coyote Gulch, and in Davis Gulch, have been tested during 1957. None of the other sites appear to be worthy of excavation.

It is suggested, however, that the fairly well preserved house structures in the high rock shelter, Site 42Ka207, be stabilized. This site, like 42Ka231, will be readily observable by boating parties, and will make an excellent feature in an interpretive program.

IMPRESSIONS AND OBSERVATIONS ON THE ARCHEOLOGY OF THE AREA

In summarizing my impressions of the archeology of the area surveyed, I will first emphasize certain points previously made concerning the environment. With the exception of the Kaiparowits Plateau, certain characteristics hold for the entire area. The climate is marked by great ranges in daily and annual temperatures. Intense heat occurs during the summers. Precipitation falls in small amounts, and permanent sources of water are not numerous. Those seeps and springs that do exist are usually associated with exposures of Navajo sandstone. Scarcity of plant life reflects the deficiency of moisture, as well as the poor nature of the soils. Land suitable for agricultural purposes is extremely limited. Animal life in such an environment is not great; even reptiles are not numerous. The former presence of mountain sheep in some quantity along the Escalante Canyon is an exception to the generally existing condition.

The top of the Kaiparowits Plateau presents a different environmental picture. The higher elevation there accounts for a more moderate climate in summer and greater precipitation. Several permanent sources of water exist on the plateau. Animal life is more abundant; deer are very numerous. In places, soil on the plateau appears to be quite rich, as indicated by luxurious stands of sage.

The prehistoric cultures of the area, as revealed by our survey, show a close relationship to the environmental conditions outlined above. Although our survey of the Kaiparowits Plateau was of a limited nature, it was sufficient to show that a fair concentration of archeological sites exists there. Not only were sites more numerous on the Kaiparowits than in any other part of the area, but many of them appear to have been small settlements or pueblos of a more permanent nature than were noted elsewhere. For a people whose economy was based primarily upon agriculture supplemented by hunting, and to an extent gathering, the plateau top environment was quite favorable.

In the narrow canyon bottoms, or upon the dry, sandy terraces and stretches between the canyons, the previously mentioned conditions existed which were unfavorable to permanent occupation by peoples in any number. Archeological remains are scarce. Most sites were occupied for a single, short period of time or periodically for longer duration. Camping localities, frequently associated with regions where stone suitable for making artifacts was present, are occasionally found on river banks and terraces and on areas of sand dunes. Canyons cut into Entrada and Morrison formations contain few, if any, natural rock shelters and rarely contain supplies of drinking water. Indians did not utilize such areas to any extent. However, where canyons are entrenched in Navajo sandstone, numerous rock shelters occur, and frequent seeps and springs are found. These canyons

were more attractive to man, and some of the rock shelters were inhabited. However, the types of cultural remains in these shelters -- thin deposits of trash, storage structures and cists, impermanently built houses -- all point to brief or sporadic occupation. Furthermore, many excellent rock shelters were never occupied, which would indicate that even the better watered canyons saw no great use by Indians.

It is my belief that the cultural center of the area investigated was the Kaiparowits Plateau. From there small groups, families or hunting parties perhaps, took periodic trips to the surrounding localities. Such trips probably were more frequently taken during winter months when snow and cold weather prevailed on the plateau and the canyons were warm but not so hot as they were during the summer months. The purpose of these trips might well have been to hunt mountain sheep. Trips from the plateau also may have been in search of suitable stone for implements. Terraces along the Colorado River supplied such materials.

The archeological remains also suggest that at times small groups of people resided in the Escalante and its tributary canyons, as well as in Llewellyn and Cottonwood gulches. It is probable that such occupations were not for long periods; furthermore, the meager agricultural lands in the canyons did not allow for settlement in large numbers. In some instances it is obvious that groups returned periodically to the same locality. Storage structures in the shelters, as well as the occurrence of corn cobs and squash, suggest that these groups did practice some agriculture on the terraces and sandy bars in the canyon bottoms.

Speculating a bit, it is not difficult to postulate that a group might have moved to a canyon near the Kaiparowits for a summer, built a simple house and some storage facilities in a rock shelter, and raised a crop of corn and squash on a small plot of land. The surplus from that crop could have been stored in the shelter and drawn upon by the group whenever they returned on a hunting trip to that area at a later date.

One hundred and five archeological sites, exclusive of those recorded on the Kaiparowits Plateau, were surveyed. They have been placed in one of seven categories for classificatory purposes.

Types of sites recorded are as follows:

1) Campsites on sand dunes. These sites normally exhibit remains of hearths or fire-blackened earth. Collections from their surfaces include pottery, and such stone artifacts as projectile points, knives, scrapers, manos, and metates.

2) Campsites on terraces. These sites are similar to those above (1), but are located on terraces above canyon walls, or upon terraces of fill within larger canyons.

3) Chipping areas. This group includes archeological sites where only stone chips and artifacts, and rocks suitable for chipping, are found. They are non-ceramic, but I doubt if they are preceramic.

4) Rock shelters or occupation areas beneath protective cliffs. These sites contain cultural remains such as pottery, stone artifacts, and vegetal remains, but have no architectural features such as habitations or storage structures.

5) Rock shelters, or occupation areas beneath protective cliffs, containing storage structures or cists but no habitations. Storage structures in such sites are of dry-laid slabs of stone set up horizontally, or slabs of stone set on end and held in place by mud mortar. Cists were unlined and bell-shaped, or slab-lined pits. Both types were cut into deposits of silt or sandy fill occurring on the floor of some of the caves. A few storage structures and cists exhibited domed or vaulted roofs. Wooden poles or slabs were sometimes incorporated into the roofs or sides of the structures. Circular or oval sandstone slabs commonly were used as covers. Pottery, stone artifacts and vegetal remains normally were collected at such sites.

6) Rock shelters, or occupation areas beneath protective cliffs, containing habitation remains of dry-laid masonry. The habitations in such sites are usually poorly preserved, since they are of slabs of stone, laid horizontally and set up without the aid of mortar. The slabs seldom exhibit any shaping. Rooms frequently were built independently of one another along the rear wall of a shelter or at the base of a cliff. In plan, they ranged from semicircular to rectangular. It is presumed that originally they were roofed with poles and mud. In a few instances, rooms were placed contiguously to one another. Quite commonly storage chambers accompanied the house remains. Collections of pottery, stone artifacts, wooden artifacts, and vegetal remains were obtained from the surfaces of these sites.

7) Rock shelters, or occupation areas beneath protective cliffs, containing habitations constructed of stone masonry. In such sites the habitations resemble those described above (6), with the exception that the unshaped slabs of stone are laid up horizontally in mud mortar. These structures are usually better preserved than those built of dry-laid masonry. In several instances the roofs, which had been made of poles and mud, are still intact. Rectangular and T-shaped doorways were observed. Some walls were plastered with mud, especially on the inner faces. Single rooms were more common than units containing adjoining rooms. Frequently the structures were built against the rear wall of a cave or against the base of a cliff. Individual rooms varied in shape from almost circular to rectangular. A very few examples of walls built of poles and mud, jacal type, were recorded. One site contained a subterranean kiva-like room. Collections from sites of this type included pottery, stone artifacts, wooden and fiber artifacts, and vegetal remains.

Table 1 shows the numbers of the types of archeological sites recorded, and indicates their distribution relative to the two regions into which the area has been divided. The division is primarily geological. It separates the larger canyons cut into Navajo sandstone -- the Escalante River canyon and its tributaries, Llewellyn Gulch, and Cottonwood Gulch -- from those canyons and terraces where Carmel, Entrada, and Morrison formations are exposed -- the area between Wahweap Creek and Rock Creek, and the Escalante desert.

Table 1. Distribution of archeological sites by type

	Escalante Canyon and tributaries, Llewellyn Gulch and Cottonwood Gulch	Canyons and area between Wahweap and Rock Creeks and Escalante Desert
(1) Campsites on sand dunes	5	9
(2) Campsites on terraces	2	2
(3) Chipping areas	0	6
(4) Rock shelters or occupation areas beneath protective cliffs	16	13
(5) Rock shelters or occupation areas beneath protective cliffs, containing storage structures or cists but no habitations	15	1
(6) Rock shelters, or occupation areas beneath protective cliffs, containing habitation remains of dry-laid masonry	24	3
(7) Rock shelters, or occupation areas beneath protective cliffs, containing habitations constructed of stone masonry	9	0
Total	71	34

The tabulation does not include sites on the Kaiparowits Plateau. A systematic survey was not attempted there this season, as the area will not be inundated by waters of the Glen Canyon reservoir. In the future, however, the plateau should be surveyed and a series of excavations undertaken, for access to parts of the area will become fairly easy once waters rise along its southern edge.

Observations previously stated concerning the utilization of the area by aborigines are emphasized by the distribution of archeological sites as shown in Table 1. Note that the table lists twice as many sites in the canyons where Navajo sandstone is exposed than in the other portion of the area. Also note the much greater proportion of sites with storage structures or cists, and habitations, in the area of Navajo sandstone. Apparent reasons for these and other patterns of distribution shown in the table have been mentioned previously and will not be repeated.

A complete analysis of the archeological specimens collected during the survey has not been attempted. However, in Table 2, which is appended to this report, there is a numerical listing of all items recovered. Pottery undoubtedly will be the most significant group of remains to aid in determining the temporal and cultural affiliations of the sites. From an examination of the ceramics made at the time of their collection, and a brief re-examination of them in the laboratory at Salt Lake City, it appears that the same ceramic complex occurs throughout the area. It consists of a large proportion of corrugated wares, a fair number of plain gray, a small percentage of black-on-white, and a few black-on-red sherds. This complex appears to be predominantly Anasazi in affiliation, and Pueblo II - Early Pueblo III in time. Relationship with wares of northeastern Arizona is suggested. Especially is this noted in the corrugated and black-on-red sherds, as well as the occurrence of an occasional trade piece of Tusayan Polychrome and Jeddito Black-on-orange. On the other hand, the black-on-white sherds show some similarities to wares associated with the Fremont culture, although the typically Fremont manually textured wares are lacking. Perhaps the area will prove to be a meeting place of Fremont and Anasazi cultures. Geographically it lies in such a position. It is likely that excavations will uncover earlier culture stages than our survey has revealed.

Further archeological studies should shed light upon the effectiveness of the Colorado River as a cultural barrier. It appears to me at this time that the river was not so great a barrier to culture spread, or actual movements of peoples, as has been surmised in the past.

Table 2. Sites, locations, and archeological materials

Site Number	Location	Description	Materials found or observed
42Ga47	Twenty Mile Wash.	Campsite on sand dune. Hearth remains.	Pottery: Spindle whorl, 1. Stone: Projectile points, 3 fragments. Assortment of stone chips. Several shallow basin metates and small, rectangular manos observed.
42Ka171	Twenty Mile Flat, Little Red Rock.	Campsite on sand dune.	Pottery: Gray ware, 34 sherds; corrugated, 16; black-on-white, 7; black-on-orange, 12. Stone: Projectile points, 12, fragmentary; side- and basal-notched point, 1; knife or scraper, 1. Several shallow basin metates and small, oval manos observed.
42Ka172	Dry Fork, Coyote Gulch.	Occupation area beneath overhanging cliff. Panel of pictographs. Remains of 1 masonry habitation.	Pottery: Gray ware, 16; red ware, 3; corrugated, 13; black-on-white, 1; black-on-red, 1. Corn cobs, 5.
42Ka173	Dry Fork, Coyote Gulch.	Campsite on sand dune.	Pottery: Gray ware, 50; red ware, 1; corrugated, 2; black-on-white, 3. Stone: Several shallow basin metates observed.
42Ka174	Dry Fork, Coyote Gulch.	Occupation area at base of overhanging cliff. Panel of pictographs.	Pottery: Gray ware, 7; corrugated, 8. Stone: Corner-notched projectile points, 2. Bone artifacts: Pendant, 1; scored and broken shaft of bone, 1.

Site Number	Location	Description	Materials found or observed
42Ka175	Dry Fork, Coyote Gulch.	Occupation area at base of overhanging cliff.	Pottery: Gray ware, 11; red ware, 3; corrugated, 3; black-on-red, 2. Stone: Projectile points, 1, fragmentary; scraper, 1.
42Ka176	Dry Fork, Coyote Gulch.	Panel of pictographs. Former occupation area washed away.	Stone artifacts: Corner-notched projectile point, 1.
42Ka177	Dry Fork, Coyote Gulch.	Campsite, sandy area of canyon bottom. Panel of pictographs. Hearth remains.	Pottery: Gray ware, 1; red ware, 1; corrugated, 27; black-on-white, 8; black-on-red, 1. Stone: Projectile points, 4, fragmentary; knife, 1, fragmentary; scrapers, 2.
42Ka178	Twenty-Five Mile Gulch.	Inaccessible rock shelter. Slab storage structures visible.	None
42Ka179	Coyote Gulch.	Rock shelter. Storage cists.	Pottery: Gray ware, 11; corrugated, 10. Corn cobs, 3; squash rind, 1.
42Ka180	Coyote Gulch.	Occupation area along base of cliff	Pottery: Gray ware, 13; red ware, 1. Stone: Projectile points, 1, fragmentary; core, 1. Squash seeds, 3.
42Ka181	Coyote Gulch.	Occupation area along base of overhanging cliff. Panel of pictographs. Cist.	None collected. Circular stone lid of storage cist observed.

Site Number	Location	Description	Materials found or observed
42 Ka182	Clear Creek.	Rock shelter. Storage structures of dry-laid masonry.	None collected. Small, oval mano and several corn cobs observed.
42Ka183	Davis Gulch.	Occupation area at base of overhanging cliff. Panel of pictographs. Remains of masonry house. Storage structures of dry-laid masonry.	Pottery: Corrugated, 12. Stone: Projectile points, 1, fragmentary; large trough metates, 3 (1 Utah type) observed; 1 large rectangular mano, 1 observed.
42Ka184	Davis Gulch.	Rock shelter.	None collected. Corrugated sherds and stone chips observed.
42Ka185	Mouth of canyon tributary to Escalante, opposite Davis Gulch.	Rock shelter. Possible habitations of dry-laid masonry.	Knotted yucca leaf, 1.
42Ka186	Escalante Canyon.	Rock shelter. Panel of pictographs. Slab-lined cists.	Pottery: Gray ware, 1; corrugated, 6; black-on-white, 1; black-on-red, 1. Stone: Projectile points, 2, fragmentary. Bone: Fragment of worked bone.
42Ka187	Escalante Canyon.	Campsite on sand dunes.	Stone artifacts: Triangular projectile points, 1.
42Ka188	Escalante Canyon.	Campsite on sand dunes. Hearth remains.	None.

Site Number	Location	Description	Materials found or observed
42Ka189	Tributary to Escalante Canyon, near Gauging Station.	Rock shelter. Storage structures or houses of dry-laid masonry.	None collected. Small, oval mano and a large chopping tool observed.
42Ka190	Tributary to Escalante Canyon near Gauging Station.	Rock shelter. Storage cists.	None.
42Ka191	Tributary to Escalante Canyon near Gauging Station.	Rock shelter. Storage structure of dry-laid masonry. Storage cists.	None.
42Ka192	Escalante Canyon.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Corrugated, 13; black-on-white, 4. Stone: Assortment of stone chips. Squash rind, 3.
42Ka193	Soda Gulch.	Rock shelter. Storage structure of mud, slabs, and poles. Storage cist.	Pottery: Gray ware, 1; corrugated, 7. Mud container, 1. Corn cobs, 4; squash rind, 5. Basketry, 1 fragment, coiled.
42Ka194	Escalante Canyon.	Campsite on sandy terrace. Hearth remains.	Pottery: Red ware, 2; black-on-white, 2; black-on-red, 2. Stone: Projectile points, 5, fragmentary.
42Ka195	Escalante Canyon.	Rock shelter. Slab-lined cists. Hearth remains.	Pottery: Gray ware, 1; corrugated, 3 (1 with orange paste). Stone: Projectile points, 4, fragmentary.
42Ka196	Soda Gulch.	Rock shelter.	1 gray sherd and 3 corn cobs collected.

Site Number	Location	Description	Materials found or observed
42Ka197	Escalante Canyon.	Rock shelter.	Pottery: Gray ware, 2; corrugated, 3; black- and red-on-orange polychrome, 3.
42Ka198	Unnamed canyon tributary to Escalante Canyon near Willow Gulch.	Rock shelter. Storage cist.	Pottery: Gray wares, 2; corrugated, 14.
42Ka199	Unnamed canyon tributary to Escalante Canyon near Willow Gulch.	Rock shelter.	Pottery: Corrugated, 18, black-on-white, 2. Stone: Projectile points, 2, fragmentary. 6 small, oval manos, 1 shallow basin metate, and several pecking stones observed. Corn cob, 1.
42Ka200	Willow Gulch.	Rock shelter. Habitation remains of dry-laid masonry. Storage cists.	None collected. Trough metate observed.
42Ka201	Escalante Canyon.	Campsite on terrace.	Pottery: Black-on-white, 2; black-on-red, 1. Stone: Projectile points, 2, fragmentary. Assortment of chips.
42Ka202	Willow Gulch.	Rock shelter.	Pottery: Corrugated, 10. Stone cist cover observed.
42Ka203	Willow Gulch.	Rock shelter.	Arrow foreshaft. Assortment of perforated stone discs (beads?).
42Ka204	Willow Gulch.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 3; corrugated, 6.

Site Number	Location	Description	Materials found or observed
42Ka205	Willow Gulch.	Rock shelter. Habitation remains of dry-laid masonry. Storage cists.	Pottery: Gray ware, 3; corrugated, 55 (most appear to be from same vessel). Squash rind, 1.
42Ka206	Willow Gulch.	Rock shelter. Habitation remains of dry-laid masonry. Storage cists.	Pottery: Corrugated, 35 (most appear to be from same vessel).
42Ka207	Escalante Canyon.	Rock shelter. Habitation and storage structure remains of masonry. Several rooms well preserved.	Pottery: Gray ware, 6; corrugated, 40; red ware, 1; black-on-white, 6. Stone: Assortment of chips and cores. Corn cobs, 2; squash rind, 8.
42Ka208	Escalante Canyon.	Rock shelter. Storage structures of dry-laid masonry.	None collected. One corrugated sherd and several stone chips observed.
42Ka209	Escalante Canyon.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 3; corrugated, 16; black-on-white, 5. Squash rind, 7; squash seeds, 4; squash stem, 1; fiber cord, 2. Trough metate observed.
42Ka210	Escalante Canyon.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 2; corrugated, 14; black-on-white, 5. Corn cobs, 5; squash stem, 1.
42Ka211	Fence Canyon.	Rock shelter. Storage cist with well preserved domed roof.	Pottery: Corrugated, 2. Corn cobs, 7.

Site Number	Location	Description	Materials found or observed
42Ka212	Fence Canyon.	Rock shelter. Storage structures of mud and stone slabs.	Pottery: Corrugated, 11. Corn cobs, 7.
42Ka213	Fence Canyon.	Rock shelter. Storage structures of dry-laid masonry.	Pottery: Corrugated, 33 (most appear to be from same vessel). Bone: Awl, 1. Corn cobs, 4.
42Ka214	Escalante Canyon.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 4.
42Ka215	Escalante Canyon.	Campsite on sand dune. Hearth remains.	Pottery: Gray ware, 4. Stone: Knife, 1, fragmentary; projectile points, 1, fragmentary.
42Ka216	Cow Canyon.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 2; corrugated, 1. Wooden bow, 1. Corn cobs, 1
42Ka217	Cow Canyon.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 1.
42Ka218	Coyote Gulch.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 2; corrugated, 2; black-on-white, 1. Stone: Projectile points, 2, fragmentary; small, oval manos observed.
42Ka219	Coyote Gulch.	Rock shelter.	None collected. One shallow basin metate observed.

Site Number	Location	Description	Materials found or observed
42Ka220	Coyote Gulch.	Rock shelter. Habitation and storage structure remains of masonry and dry-laid masonry.	Pottery: Gray ware, 3; corrugated, 1 complete jar. Corn cobs, 2.
42Ka221	Coyote Gulch.	Rock shelter.	Corn cob with stick inserted in end, 1. Several small, oval manos observed.
42Ka222	Coyote Gulch.	Rock shelter. Dry-laid masonry wall.	Stone: Projectile points, 1.
42Ka223	Coyote Gulch.	Rock shelter. Storage structures of dry-laid masonry.	None collected. One small, oval mano observed.
42Ka224	Coyote Gulch.	Rock shelter. Storage cists	None
42Ka225	Coyote Gulch.	Rock shelter. Panel of pictographs. Habitation structures of masonry.	Pottery: Gray wares, 6; black-on-white, 2. Stone: Projectile points, 5, fragmentary. Corn cobs, 2; squash rind, 1.
42Ka226	Coyote Gulch.	Rock shelter. Panel of pictographs. Habitation and storage structure remains of masonry and dry-laid masonry.	Pottery: Corrugated, 2. One shallow basin metate observed.
42Ka227	Llewellyn Gulch.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Corrugated, 2; black-and-red-on-orange polychrome, 1. Stone: Projectile points, 1, fragmentary.

Site Number	Location	Description	Materials found or observed
42Ka228	Llewellyn Gulch.	Rock shelter. Panel of petroglyphs. Habitation remains of dry-laid masonry. Slab-lined hearths.	Pottery: Corrugated, 1; black-on-white, 1; 1 small, oval mano and 2 shallow basin metates observed.
42Ka229	Llewellyn Gulch.	Rock shelter. Storage cist. Unlined firepit.	Pottery: Gray ware, 3; corrugated, 1 (orange paste). Stone: Projectile points, 2, fragmentary.
42Ka230	Cottonwood Gulch.	Rock shelter. Habitation remains of dry-laid masonry.	Stone: Chopper, 1. Wooden handle for digging stick or hoe.
42Ka231	Cottonwood Gulch.	Rock shelter. Habitation remains of masonry. Storage structures of dry-laid masonry.	Pottery: Black-on-white, 1. Corn cobs, 5.
42Ka232	Cottonwood Gulch.	Rock shelter. Habitation remains of dry-laid masonry. Slab-lined cists.	Pottery: Gray ware, 1. Bone: Awl, 1, fragmentary. Corn cobs, 2. Numerous fragments of coiled basketry impressions.
42Ka233	Cottonwood Gulch.	Rock shelter. Habitation remains of dry-laid masonry.	None.
42Ka234	Cottonwood Gulch.	Rock shelter. Panel of pictographs. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 7; red ware, 1; corrugated, 11; black-on-white, 2. Stone: Projectile points, 2, fragmentary. One trough metate observed.

Site Number	Location	Description	Materials found or observed
42Ka235	Davis Gulch.	Rock shelter. Panel of pictographs.	Pottery: Gray ware, 9; red ware, 13; corrugated, 11; black-on-white, 5; black-on-red, 1. Stone: Projectile points, 4, fragmentary; triangular knife, 1; assortment of chips. Corn cobs, 3; squash stems, 2; squash rind, 2. Arrow fragment, 2. One shallow basin metate and one small oval mano observed.
42Ka236	Davis Gulch.	Rock shelter. Panel of pictographs. Habitation and storage structure remains of masonry and dry-laid masonry.	Pottery: Gray ware, 6; red ware, 1; corrugated, 23. Corn cobs, 2.
42Ka237	Davis Gulch.	Rock shelter. Habitation remains of dry-laid masonry. Slab-lined cist.	None.
42Ka238	Davis Gulch.	Rock shelter. Habitation remains of dry-laid masonry.	Pottery: Gray ware, 1; corrugated, 2.
42Ka239	Davis Gulch.	Rock shelter. Possible stone structures.	None.
42Ka240	Davis Gulch.	Rock shelter. Panel of pictographs. Possible stone structures.	None.

Site Number	Location	Description	Materials found or observed
42Ka241	Davis Gulch.	Rock shelter. Habitation remains of masonry. Subterranean kiva-like structure.	Pottery: Gray ware, 17; red ware, 1; corrugated, 17; black-on-white, 1. Stone: Assortment of chips. Corn cobs, 1; squash rind, 2, squash stems, 2.
42Ka242	Davis Gulch.	Rock shelter. Habitation remains of dry-laid masonry.	None.
42Ka243	Davis Gulch.	Rock shelter. Possible stone structures.	Pottery: Corrugated, 1. Corn cobs, 1.
42Ka244	Kaiparowits Plateau.	Small pueblo. Number of contiguous rooms of stone masonry.	Pottery: Gray ware, 16; red ware, 4; corrugated, 26; black-on-white, 27; black-on-red, 2. Stone: Projectile points, 7, fragmentary.
42Ka245	Kaiparowits Plateau.	Small pueblo. Number of contiguous rooms of stone masonry.	Pottery: Gray ware, 11; corrugated, 11; black-on-white, 7. Stone: Projectile points, 1, fragmentary. One trough metate observed.
42Ka246	Wahweap Creek.	Campsite on sand dune area, concentrations of burned rock.	Stone: Corner notched projectile point, 1; knife, 1, fragmentary; assortment of chips.
42Ka247	Midway between Cottonwood Wash and Gunsight Canyon.	Campsite on sand dune.	Pottery: Gray ware, 1.

Site Number	Location	Description	Materials found or observed
42Ka248	Gunsight Canyon.	Rock shelter.	Cord cobs, 2. Assortment of animal bones.
42Ka249	Gunsight Canyon.	Campsite on sandy bar. Fire-blackened earth suggests hearths.	Pottery: Gray ware, 1.
42Ka250	Navajo Canyon.	Rock shelter. Storage structures of mud and stone.	Pottery: Corrugated, 7.
42Ka251	Warm Creek.	Campsite on sandy terrace.	Stone artifacts: Projectile points, 2, fragmentary; assortment of chips.
42Ka252	Warm Creek.	Rock shelter.	Pottery: Gray ware, 3; corrugated, 7; black-on-white, 1. Stone: Projectile points, 2, fragmentary; small, oval mano, 1; core, 1; assortment of chips.
42Ka253	Warm Creek.	Campsite on river terrace.	Pottery: Gray ware, 10; corrugated, 12; black-on-white, 4. Stone: Projectile points, 2, fragmentary; scrapers, 1.
42Ka254	Warm Creek.	Rock shelter.	Pottery: Gray wares, 12; corrugated, 25; black-on-white, 1. Stone: Scrapers, 1. Assortment of animal bones
42Ka255	Warm Creek.	Rock shelter.	None.

Site Number	Location	Description	Materials found or observed
42Ka256	Wahweap Creek.	Rock shelter.	Pottery: Corrugated, 2; black-on-white, 1; Stone: Assortment of chips. 1 small, oval mano observed.
42Ka257	Kane Wash.	Campsite or chipping site on sand dune.	Pottery: Black-on-orange, 1. Stone: Assortment of stone chips.
42Ka258	Kane Wash.	Campsite or chipping site on sand dune.	Stone: Projectile points, 1, fragmentary. Assortment of chips.
42Ka259	Navajo Canyon.	Rock shelter.	Stone: Projectile points, 1, fragmentary.
42Ka260	Colorado River. Terrace, right bank, Glen Canyon.	Chipping area.	Stone artifacts: Assortment of chips.
42Ka261	Colorado River Terrace, right bank, Glen Canyon.	Chipping area.	None.
42Ka262	Colorado River Terrace, right bank, Glen Canyon.	Rock shelter.	Pottery: Gray ware, 3. 2 shallow basin metates and one trough metate observed.
42Ka263	Colorado River Terrace, right bank, Glen Canyon.	Campsite on sandy hill.	Stone: Small, oval mano, 1; scraper, 1; assortment of chips. 4 small, oval manos observed.
42Ka264	Last Chance Canyon.	Chipping area along base of cliff.	Stone: Projectile points, 1, fragmentary.

Site Number	Location	Description	Materials found or observed
42Ka265	Rock Creek.	Rock shelter. Panel of petroglyphs and pictographs.	Pottery: Red ware, 1; corrugated, 6 black-on-white, 3; black-on-red, 2. Stone: Projectile points, 2 fragmentary.
42Ka266	Rock Creek.	Rock shelter. Panel of petroglyphs.	Pottery: Gray ware, 2; corrugated, 4; black-on-red, 1. Stone artifacts: Knives, 2, fragmentary Assortment of chips 1 small, oval mano observed.
42Ka267	Rock Creek.	Occupation area at base of overhanging cliff. Panel of petroglyphs.	Pottery: Gray ware, 1.
42Ka268	Rock Creek.	Rock shelter. Panel of petroglyphs.	Pottery: Gray wares, 7; corrugated, 19. Stone: Projectile points, 3, fragmentary. 1 shallow basin metate observed.
2Cn6	Colorado River terrace, right bank Glen Canyon.	Chipping area.	Stone: Projectile points, 13, fragmentary; assortment of chips and cores.
2Cn7	Colorado River terrace, right bank Glen Canyon.	Campsite on sandy flat.	Pottery: Gray ware, 8; black-on-white, 3. Stone: Small, circular mano, 1; knives, 3, fragmentary; assortment of chips. 2 shallow basin metates and 3 small, oval manos observed.
2Cn8	Colorado River terrace, right bank, Glen Canyon.	Chipping area.	Stone: Projectile points, 2, fragmentary.

Site Number	Location	Description	Materials found or observed
2Cn9	Colorado River terrace, right bank Glen Canyon.	Rock shelter and adjacent area.	Pottery: Gray ware, 2; corrugated, 7; black-on-white, 3. Stone: Knives, 4, fragmentary; assortment of chips. 1 small, oval mano observed.
2Cn10	Colorado River terrace, right bank Glen Canyon.	Chipping area.	Stone artifacts: Projectile points, 4, fragmentary; knives, 1, fragmentary.
2Cn11	Colorado River terrace, right bank Glen Canyon.	Rock shelter and adjacent campsite. Storage structure of dry-laid masonry.	Pottery: Gray ware, 28; tan, 4; corrugated, 42; black-on-white, 3. Stone: Projectile points, 2, fragmentary; 1 shallow basin metate and 2 small, oval manos observed.
2Cn12	Colorado River terrace, right bank Glen Canyon.	Rock shelter. Storage structures of dry-laid masonry.	Pottery: Corrugated, 4. Stone: Knives, 2, fragmentary.
2Cn13	Wahweap Creek.	Rock shelter. Wall of dry-laid masonry.	Pottery: Gray ware, 3; tan, 1; corrugated, 2. Stone: Projectile points, 1, fragmentary; 1 shallow basin metate observed.
2Cn14	Wahweap Creek.	Rock shelter.	Pottery: Corrugated, 1; black-on-white, 1. Stone: Side-notched projectile point, 1.

Fig. 1. Well preserved house at Site 42Ka183. Masonry stands 3-4 ft. high. Rectangular doorway, no roof. Note metates in front of house.

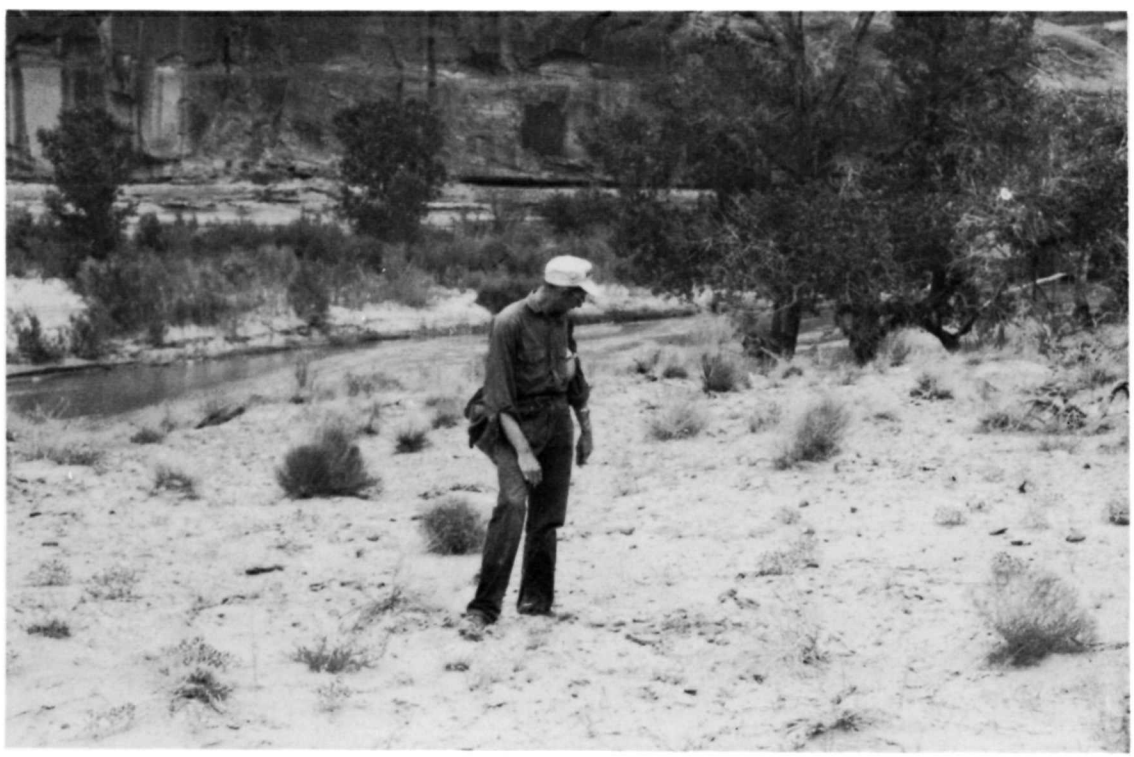

Fig. 2. General view of site 42Ka194, a sandy terrace on right bank of Escalante River. Note hearth with cracked rocks at feet of crew member.

Fig. 3. Site 42Ka200, Escalante Canyon. Circles indicate two members of survey crew climbing to rock shelter.

Fig. 4. Cist of poles, slabs of stone and mud, 42Ka200, located at east end of Escalante Canyon.

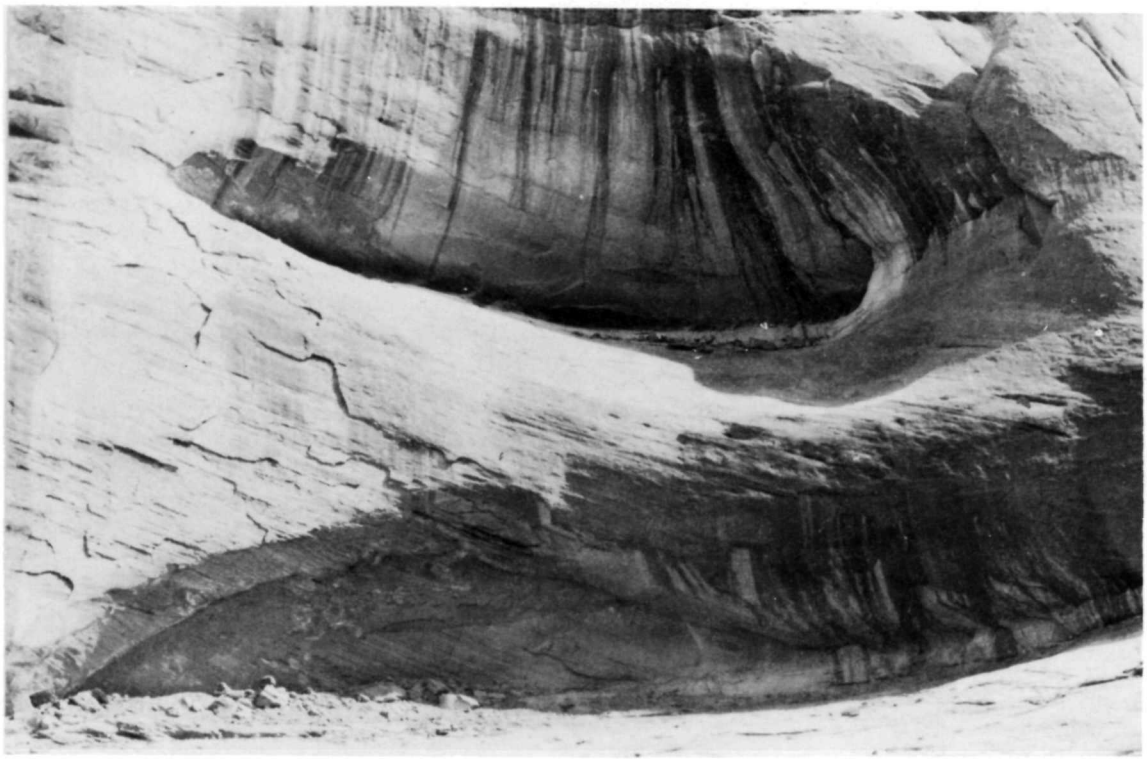

Fig. 5. View of Site 42Ka207, Escalante Canyon, from point on canyon bottom below.

Fig. 6. View of east house, 42Ka207. Roof and entrance hole are shown.

Fig. 7. Front view of center structure, 42Ka207. Pole and mud construction, inset doorway. View is toward northeast.

Fig. 8. Detail of roof, center house, 42Ka207. Note square smoke hole in roof.

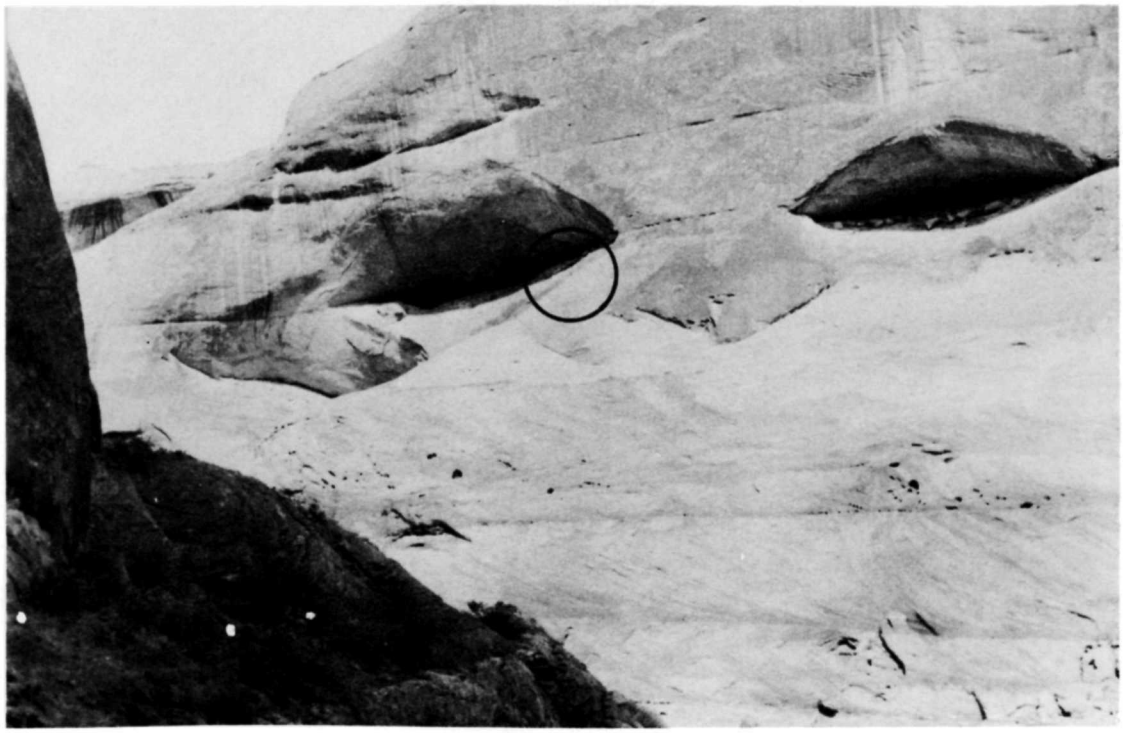

Fig. 9. Cave Site 42Ka213, Fence Canyon. Two crew members (encircled) are climbing to caves.

Fig. 10. View of 42Ka171, Little Red Rock. View is toward northwest, across sand dunes.

Fig. 11. Site 42Ka206, Willow Gulch. Small clay-lined cist is set in floor. Note stone lid at side.

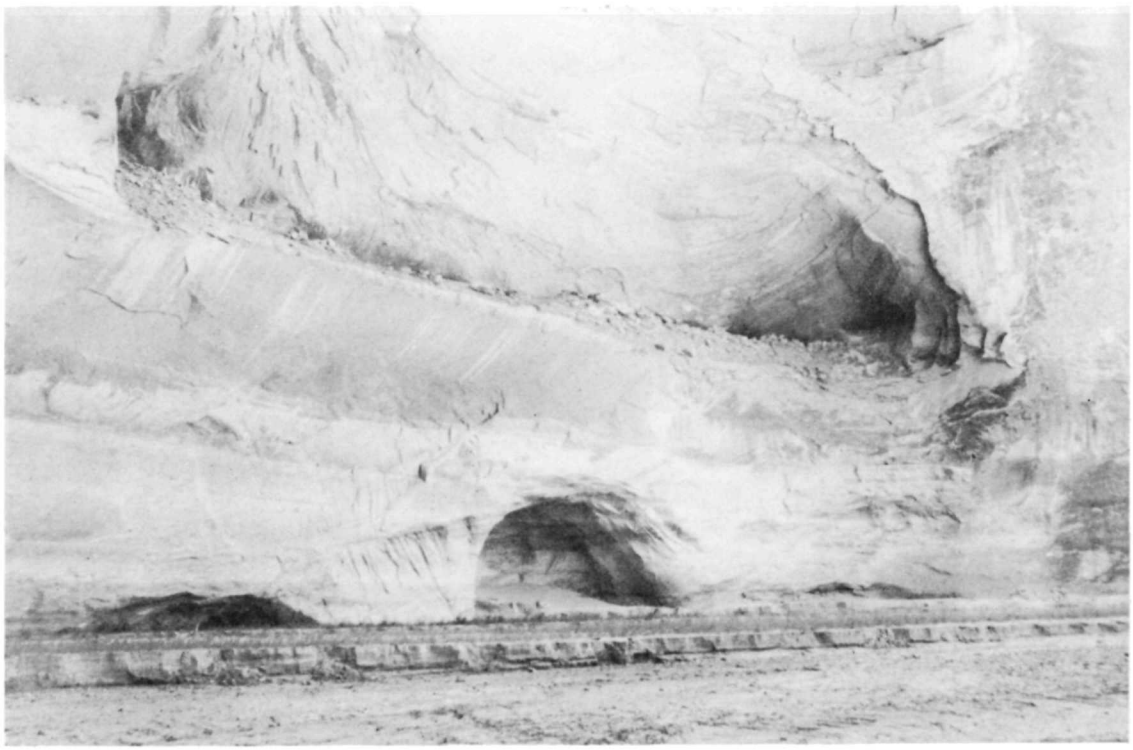

Fig. 12. View southeast across 42Ka178. Old fill line about 20 ft. below cave was level of canyon bottom when cave, now inaccessible, was occupied. Slabs standing on edge in cave probably are house or cist remains.

Fig. 13. Site 42Ka220, Coyote Gulch. View is toward southwest. Remains of fallen oval house built of poles, slabs, and mud. Note small shelf on far wall of structure.

Fig. 14. Site 42Ka225, Coyote Gulch. Remains of stone and mud structure.

Fig. 15. Site 42Ka226, Coyote Gulch. Remains of east house structure.

Fig. 16. House structure, Site 42Ka228, Llewellyn Gulch.

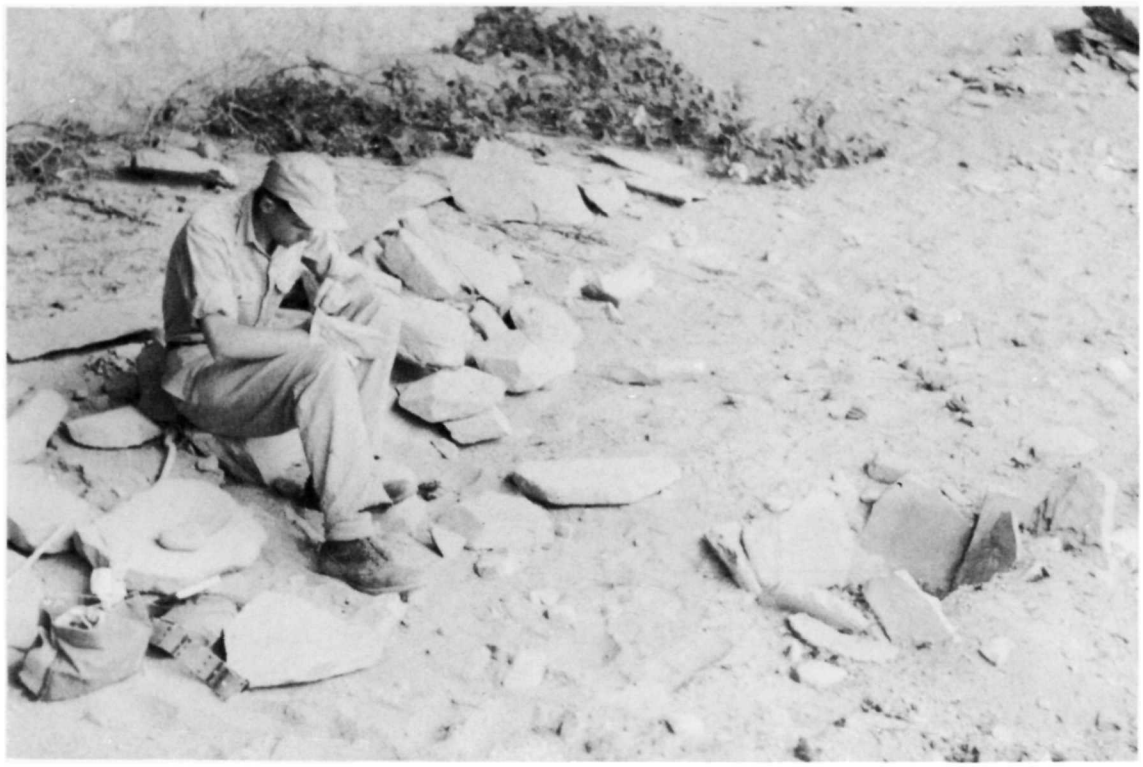

Fig. 17. Site 42Ka228, Llewellyn Gulch. Slab-lined hearth. Note metate and mano in left foreground beside seated individual.

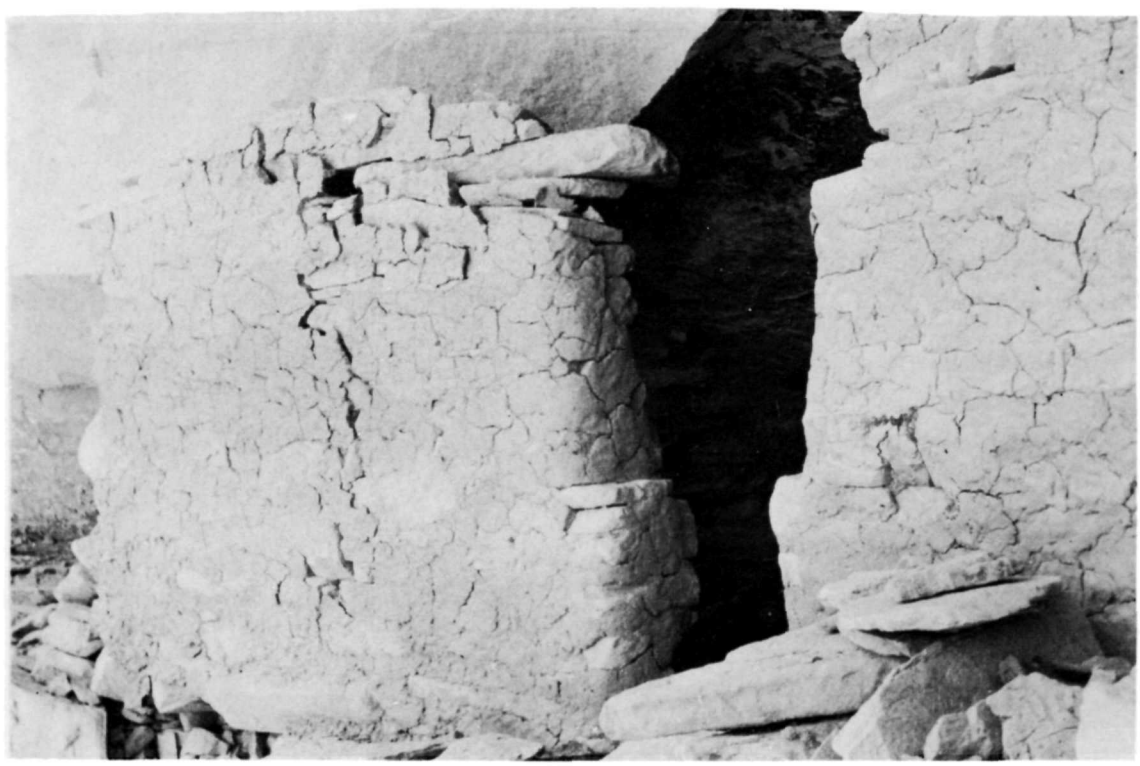

Fig. 18. Site 42Ka231, east fork, Cottonwood Gulch. Front view of best preserved structure in rock shelter. Note T-shape doorway.

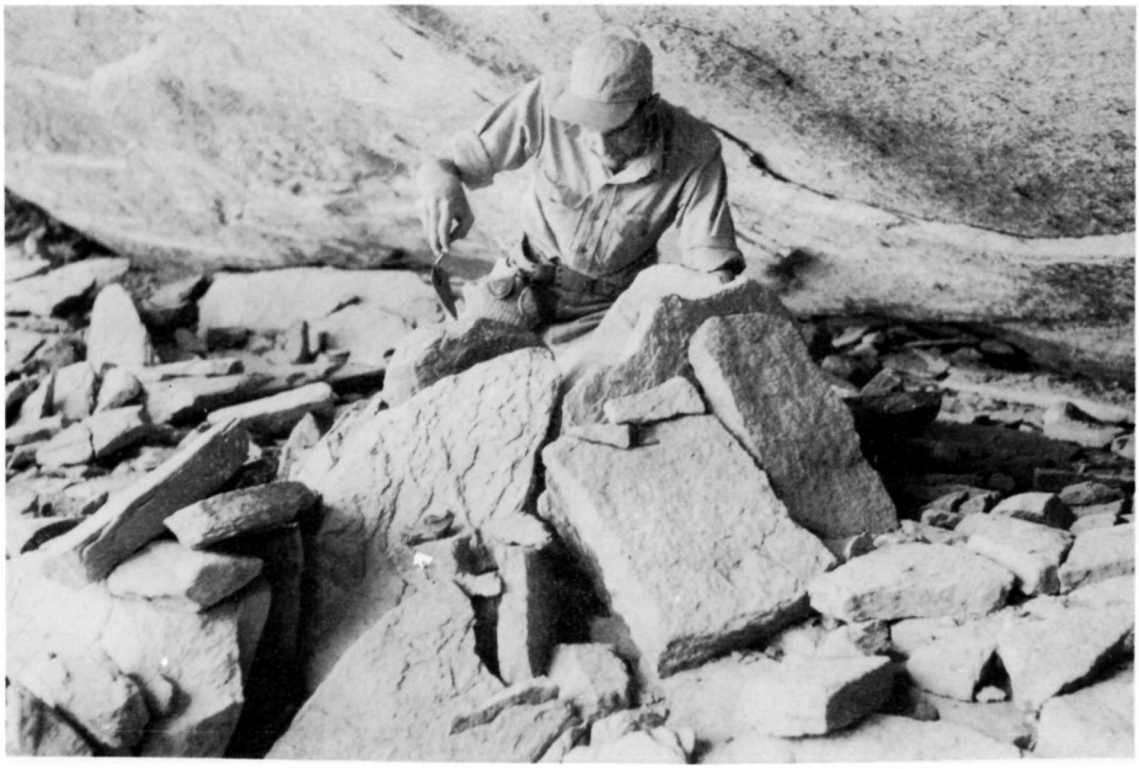

Fig. 19. Site 42Ka232, east fork, Cottonwood Gulch. Slab and mud storage structure in center of rock shelter.

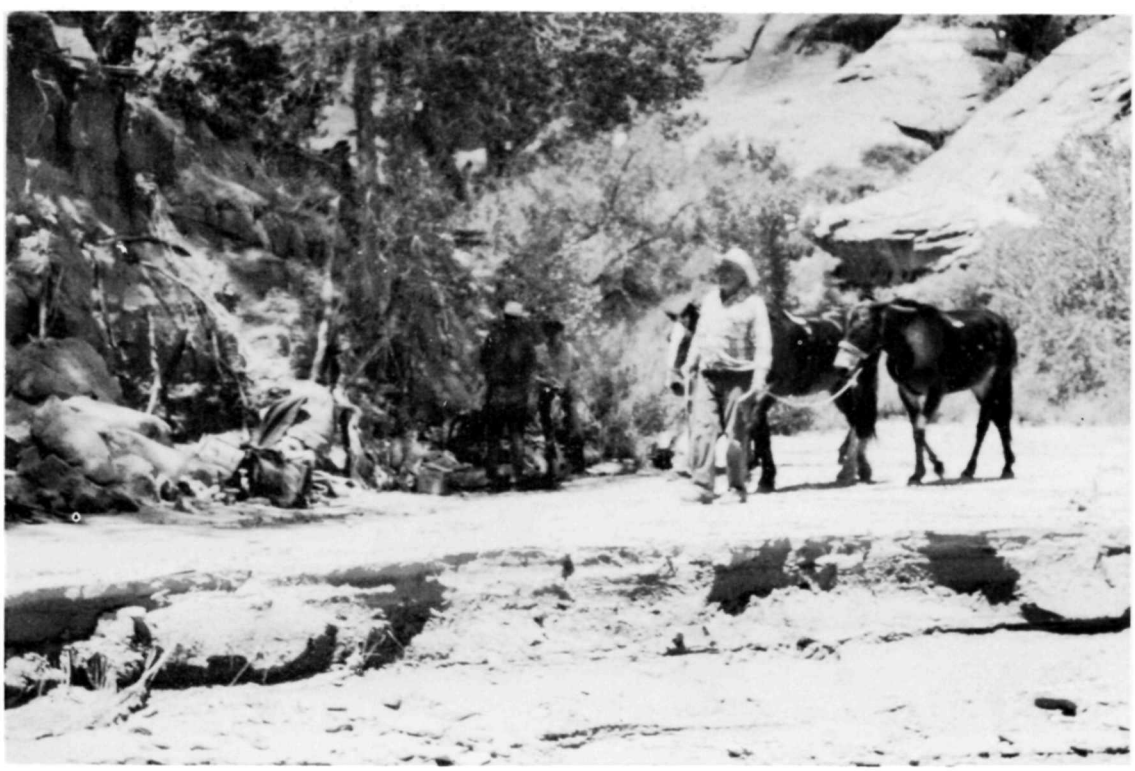

Fig. 20. Setting up camp in Coyote Gulch. Wrangler is leading pack horses.

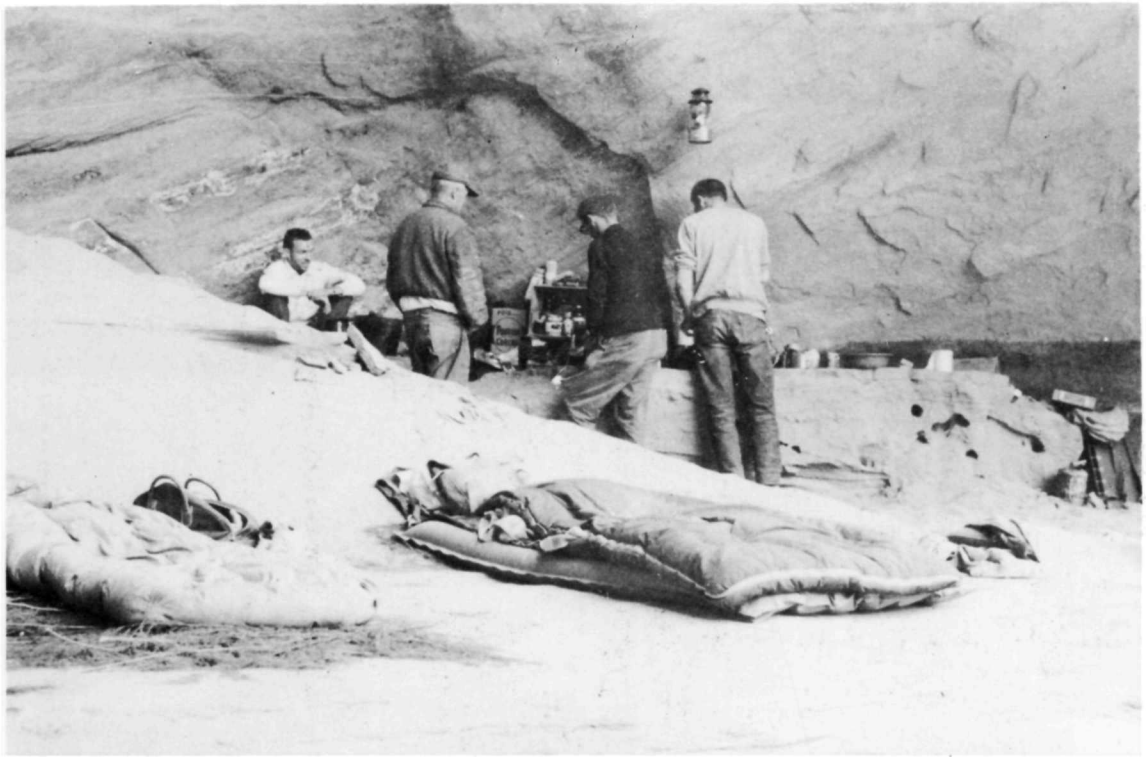

Fig. 21. Crew in camp in rock shelter under Site 42Ka178.

Fig. 22. Crossing the Escalante between Soda and Willow gulches. River is high from previous night's rain.

Fig. 23. Survey crew members in camp near Escalante, Utah.


FIG. 24.
COLORADO RIVER
GLEN CANYON DAM SITE TO ESCALANTE RIVER
4 3 2 1 0 MILES
JANUARY 1 1958
LEGEND:
ARCHEOLOGICAL SITES RECORDED BY UNIVERSITY OF UTAH SURVEY 1957.
SHADED PERIMETER OF AREA TO BE FLOODED.
GRID ORIENTATION BY U.S.G.S. QUAD SHEET NAME.
North
GLEN CANYON DAM SITE
Warm Creek
Cottonwood Wash
Gunsight Canyon
Navajo (Padre) Canyon
Kane Wash
Kane Creek
COLORADO RIVER
Rock Creek
Middle Rock Creek
KAIPAROWITS PLATEAU
Navajo Valley
Cottonwood Gulch
Fivemile Creek
Davis Creek
Clear Creek
Indian Creek
Stevens Canyon
Coyote Creek
Cow Canyon
Fence Canyon
Wilson Creek
NAVAJO MOUNTAIN
LAKE CANYON

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