

ARCHEOLOGICAL EXCAVATIONS IN GLEN CANYON:
A PRELIMINARY REPORT OF 1958 WORK

A dozen archeological sites, located in Southern Utah's deep Glen Canyon of the Colorado, were excavated this summer by a crew of archeologists from the University of Utah. Some of these sites will be flooded this spring, after the completion of a coffer dam just upstream from the main Glen Canyon Dam construction, at Page, Arizona. Inundation of the remaining sites will come in about 7 years, after the 580 foot-high dam is completed.

Boating was the only means of access to all but two of this summer's excavations. Whereas most of the Glen Canyon Project survey parties working on the plateaus have had to carry water, the river excavation crew was able to use water to carry it. Working with two outboard-powered, flat-bottomed metal boats, this party used the river as a highway.

However, the river archeologists were in fact not too unlike their dusty brethren, for as is well known, the Colorado is often more land than water. For drinking purposes, the party preferred to seek out clear springs in the narrow side canyons. A greater problem was navigation, since the river remained at a near-record low from late July throughout the rest of the field season. As the water level dropped, the navigable channel became more and more elusive. A common sight was the University of Utah crew, in mid-river but in only ankle-deep water, pulling their boats toward a deeper channel. With experience, however, came a degree of proficiency, so routine trips soon became little more than that.

During most of the season, Wahweap Lodge, Arizona, formed the supply base for gas and oil, and Kanab, Utah, the base for food and other supplies. Vehicles were parked at Kane Creek landing, and every two weeks, the crew boated downstream, switched to wheeled transportation, and drove the 90 miles into Kanab.

Members of the river party, all students, were: Keith Anderson, Dave Dibble, Don Fowler, Joe Jorgensen, and Lynn Robbins, of the University of Utah; Wayne Coon, of the University of Colorado; Peter Bodenheimer, of Harvard College; and William Lipe, of Yale University. Dibble and Coon handled the photography, and each was with the crew only part of the season. Dr. Jesse D. Jennings, of the University of Utah, directed the crew for the first few weeks, then turned the administration over to Lipe for the rest of the summer. Fowler served as Lipe's assistant and directed the archeological survey conducted by the party.

On going into the field late in June, the party's objective was to excavate as many sites as possible in the lower part of the canyon, between the mouth of the San Juan River and the damsite. This is the area that will suffer some flooding when the coffer dams are completed late this winter. Though archeological surveys had been conducted in Glen Canyon in past years, complete records of these surveys were not available at the start of the field season. Consequently, part of the crew's time was devoted to reconnaissance. A total of 70 sites was located, some of which had not been reported by earlier surveys. Because of the general smallness of sites in the canyon, and the scarcity of sites with excavatable midden or fill, the original objective was achieved by the end of August. Then the party moved by land far upstream to Redd Canyon, only a dozen river miles below Hite, and spent the final two weeks of the field season excavating a ruin on the old Bert Loper ranch at the mouth of Redd Canyon. Thus the river excavation party is ahead of schedule, for next season's objective will be the excavation of sites below Hite and above the mouth of the San Juan. The Redd Canyon site is one of the larger ones on this stretch of the river.

Environmental Setting

Before discussing specific sites, a brief description of their environment, the Glen Canyon, is in order. The main gulch of the canyon, in the region from the mouth of the San Juan to the damsite, is cut into the homogeneous, crossbedded Navajo sandstone. This sandstone characteristically forms almost perfectly smooth, vertical walls which rise as high as 800 feet above the river. In only a few places these vertical walls are broken down into a series of "slickrock" benches and terraces which recede from the river at angles less than perpendicular. The vertical canyon walls are often colorfully stained by water spilling over the top; in some cases this has produced a "tapestry" effect. These walls characteristically terminate in steep slopes of talus, or fallen rock, which in turn rest in the water or on terraces of sand deposited by the river. The archeological sites in the canyon appear on top of the talus slopes, on the sand terraces, in caves or "alcoves" in the canyon walls, or in the narrow, deep canyons of the occasional tributaries flowing into the Colorado.

Of the prehistoric inhabitants of the Glen Canyon, the most numerous seem to have been a people with a way of life something like that of the modern pueblo Indians such as the Hopi, the Zuni, and the pueblo dwellers of the Rio Grande Valley in New Mexico. Like the modern puebloans, these prehistoric inhabitants of the Glen Canyon were farmers. The climate of the canyon is a harsh one for crops; since little more than five inches of rain fall per year, and the temperature rises well above 100°F. almost every day in the summer months. However, the ecologists tell us that the plants

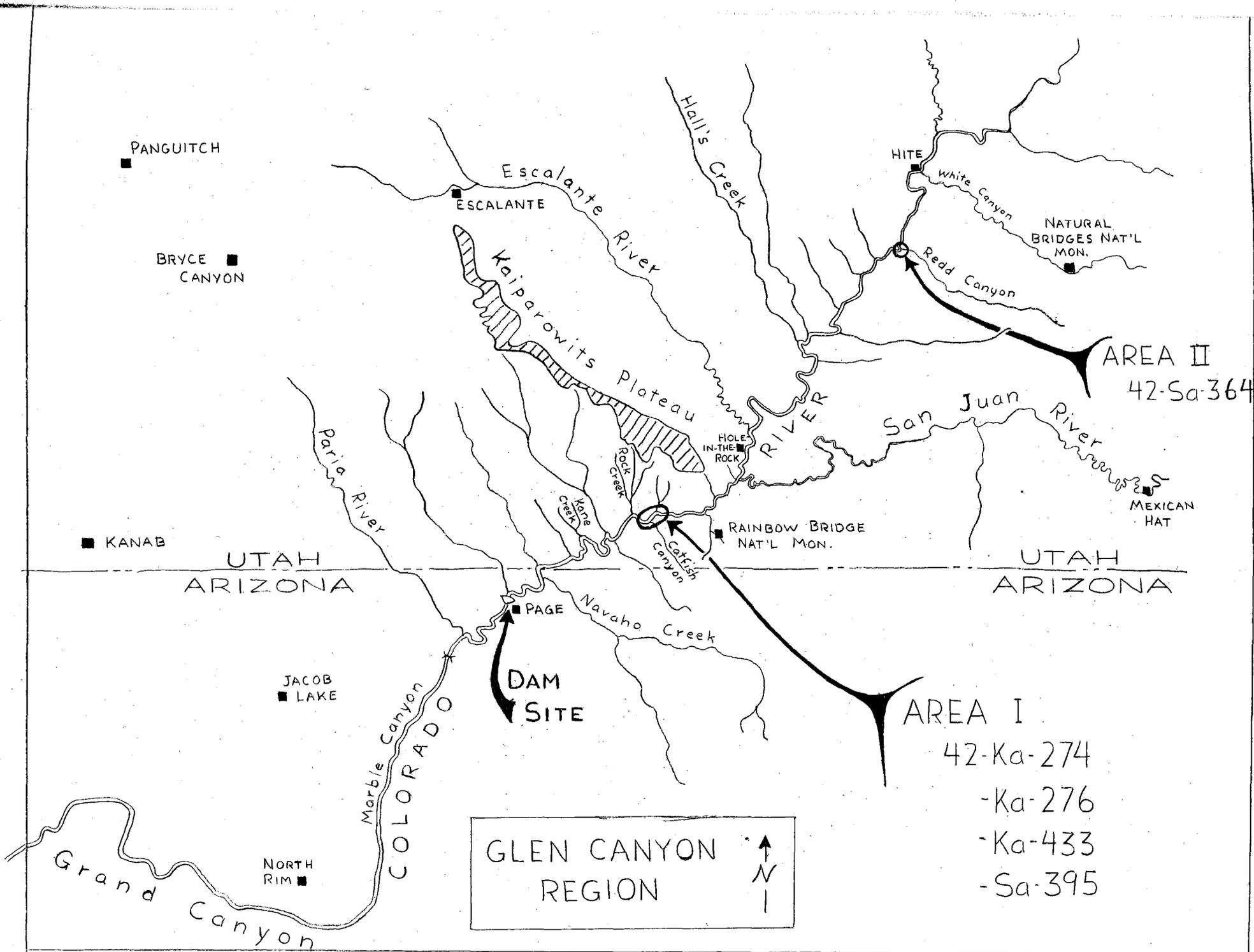
of the sand bars are supplied with water that seeps up from the river, so undoubtedly these lands were used for agriculture. These sandbars can be divided into several zones. First is the bare sand flat, which appears in the river as the water level falls in late summer. These sand flats are flooded, shifted, and re-formed each year, and support no vegetation. Second is the sand terrace, or higher part of the sand bar, which supports permanent vegetation. Willows and tamarix form a dense fringe on the outsides of these terraces, while more open vegetation grows in the interiors between the willows and the cliffs or talus. All the plants on these terraces draw water from the river through the sand, and it is here that agriculture likely was practiced in prehistoric times.

The Glen Canyon must once have supported fairly large populations of deer and mountain sheep, for the bones of these animals are found in some quantity in many of the archeological sites. The mountain sheep is never seen in the canyon today, and the deer is but rarely noted. Today, the largest common wild mammal is the beaver, which frequents the banks of the river and its tributaries, but makes few attempts at dam-building.

Sites

Turning from environment to specific sites, I have chosen for discussion here the most interesting five of the dozen sites dug last summer. The first four to be discussed are from a fairly small area designated as "Area I" on the map.

42Ka274, "Talus Ruin" - This is the largest ruin in the lower part of the Glen Canyon, though it consists of only six dwelling rooms plus several small storage rooms and cists. The ruin is unusually situated, the rooms being strung out along a narrow ledge atop a steep talus slope at the base of high cliffs. The surface on which the ruin is built is nowhere wider than 10 or 12 feet, though it stretches for almost 200 feet along the cliff. One of the rooms and several of the cists are separated from the main part of the ruin by approximately 200 yards, but are atop the same talus slope. None of the dwelling rooms are contiguous, though several of the storage rooms or cists are attached to dwellings. Three of the site's six rooms are semi-subterranean; the larger two of these have ventilator shafts and all apparently had roof entrances. One of these pithouses, located at one end of the main part of the site, may have been used as a kiva. Its interior dimensions are 12' x 14', and it has a clay-rimmed firepit, ventilator, and two loom-anchors set into a fairly hard floor. Of the surface rooms, two are masonry-walled, and the other was probably partly masonry, partly jacal. The two masonry surface rooms have doorways facing the river.



In general, the masonry seen at this site is quite sloppy. The stones used in construction are mostly unshaped, and there was little effort to maintain regular courses. Spaces are chinked with small spalls, or sometimes, corn-cobs. In the semi-subterranean rooms, the walls are laid against the sides of the pit, and slope outward slightly. In these rooms, the wall foundations are of large sandstone slabs set on edge.

The cliffs behind Talus Ruin slope outward slightly, and this has sheltered the site from the scant moisture that falls in this region. Though the roofs have collapsed, most of the walls are still standing. Also because of the dryness, large quantities of corn-cobs, gourds, and wild plant materials were recovered. These are now being studied. Dry artifacts found included yucca sandals, fragments of matting and basketry, a few wooden tools, and bits of cotton cloth. Numerous imperishable objects, such as pieces of broken pottery, chipped flint, and ground stone, were also found.

Most of the materials mentioned above were recovered from fairly extensive trash and refuse deposits in and between the rooms. In some cases, rooms were built on trash, possibly indicating occupation at the site before the structures were built. The whole occupation, however, probably did not cover a very long time span. Pottery types which have been dated in other parts of the Southwest were found at this site, and they indicate that the Talus Ruin was occupied sometime in the late 1000's or early 1100's A. D. The people at Talus Ruin made pottery similar to that made by the pueblo dwellers of the Marsh Pass-Kayenta region of Northeastern Arizona. The abundant remains of agricultural plants found at Talus Ruin show that its inhabitants were farmers, who grew corn, beans, squash, and probably cotton. There is a permanent sandbar, about 40 acres in area, just upstream from the site, and this was probably utilized for farming. Splintered bones found in the ruin indicate that the inhabitants also hunted and ate the deer and mountain sheep.

42Ka276 - This site is located in a large cave or alcove which looks out over the sandbar to the river just upstream from Talus Ruin. The alcove is floored by a rather steep talus slope, topped by a level surface covered with heavy brush, which is watered by springs at the back of the alcove. When this site was first discovered, the only indications of human occupation were a few potsherds and some charcoal at the base of the talus, apparently eroded down from above. Removal of from six to eight feet of compacted dead brush and leaves from the back of the cave revealed a level floor backed by a dry-masonry retaining wall some three feet high and thirty feet long. Floor features included a large clay-rimmed firepit, a line of four loom anchors, and an apparently-older, basin-type firepit. A thin layer of sherds, corn-stalks, reeds, and other debris covered the floor. The floor itself contained

much trash, and was evidently not a specially prepared surface, but one merely smoothed and hardened by the tramping of many feet. There was no evidence of roofing material, and apparently this structure was never roofed.

On trenching through the floor, it soon became obvious that it was underlain by a considerable depth of cultural trash and debris; as much as five feet in some places. This deposit was of a fairly homogeneous gray color throughout, and proved to be composed of ash, sand, both wild and domestic plant remains, and some artifacts. A list of recovered artifacts includes: a number of yucca sandals, fragments of twine and cordage, bits of broken pottery, and objects of worked bone, horn, stone, and wood. Here, as at Talus Ruin, the dryness of the situation was responsible for much of the preservation.

Some of the artifacts were found near the bottom of the section, and there was little difference in the nature of the materials throughout the deposit, with the significant exceptions of pottery and stone. Potsherds were found in only the top two feet of the deposit, indicating that in the earlier periods of occupation at this site, pottery may not yet have been introduced to the inhabitants of the area. Also interesting was the slightly larger number of small handstones or grinders found in the lower levels.

42Sa395, "Catfish Canyon Site" - Like the site just discussed, the Catfish Canyon site is located in a cave or alcove. But unlike 42Ka276, the alcove is a huge one several hundred yards long, and looks out upon, not the river, but a bend in Catfish Creek, one of the minor left-bank tributaries of the Colorado. Catfish Creek empties into the Colorado about a half-mile downstream from Talus Ruin, and the 42Sa395 cave is approximately a half-mile up Catfish Canyon. Surface inspection of the sandy floor of the huge cave showed a very few gray corrugated potsherds, a few small corncobs, scattered charcoal, a sandstone slab storage cist, and the indications of several rather nebulous slab-outlined rooms. Excavation eventually defined two of these shallow rooms, and in the process, some very surprising things turned up. First to appear was a complete yucca sifter, a loosely woven type of basket still made by Pueblo tribes in Arizona. Next the excavators cleared the sand from a cradle-board made of an oval wood framework with a series of thin sticks fastened horizontally across it. When this was carefully lifted, it was found that it still supported the mummified remains of its original occupant, a small child. The infant was resting on a pad of grass and bark, between its back and the cradle frame. Covering the child was a piece of light hide of some type, plus the remnants of what may have been a small blanket made of strips of rabbit fur. Supporting the child in front was a light stick disk of construction similar to the main cradle frame. This was bound to the cradle frame, thus holding the child in a neat "sandwich."

After this specimen was duly recorded and packed away, excavations resumed, only to cease again almost at once with the discovery of another mummified infant. This one was very young, possibly foetal, and it had been interred sans cradleboard. Though both babies had been placed in purposely-dug though shallow holes, this latter infant showed more evidences of being prepared for burial. It was wrapped completely in soft buckskin, and the resulting bundle neatly tied with a braided cord made of what appears to be human hair.

Also uncovered at this site was a sickle-shaped object made of mountain-sheep horn, a few flint chips, and a small quantity of corn cobs and squash stems. There was no trash or midden deposit as such, and all the materials found were quite near the present surface. The cave was apparently occupied only a very short time.

42Ka433 - This site is located approximately a mile upstream from Talus Ruin and 42Ka276, and about a mile and a half upstream from Catfish Canyon. The focus of the site is a small cave in a low cliff, hardly more than a sizeable crack in the rock. When the site was first found, quantities of potsherds, flint nodules and chips, and charcoal stains appeared in and in front of the cave. Excavation disclosed a deposit of unsuspected depth--almost seven feet at a point just in front of the cave. Composition of the fill was of sand, charcoal, ash, and organic material, with occasional hearth areas and artifacts, but no walls or other structures. Natural layers could be discerned, but there were no unconformities or sharp breaks between them, so the deposition was probably fairly continuous. A striking vertical difference in cultural remains was noted, however, for pottery appeared in only the top three feet of the deposit. Below that, only charcoal, flint chips, a very few flint tools, and a few dry perishable artifacts were found. No early pottery types seem to be represented, and it may be that we have here (and at 42Ka276) evidences of a fairly late introduction of pottery into a non-pottery-using cultural tradition. Or perhaps some other hypothesis may emerge from a systematic study of the material. Definite interpretations of this situation will have to wait until such a study is completed.

Though the existence of deep non-pottery-bearing strata was perhaps the most significant aspect of this site, some very unusual and interesting artifacts turned up in the excavation of its upper levels. Just under the surface, in the extreme back of the cave, was found a well-preserved "paint kit". This consisted of an outer bag or pouch containing a smaller bag which in turn contained a small cake of red paint or ocher, and a neatly made dauber or applicator. The outer pouch, which was approximately six inches long, was made of the leg skin of a deer, with the hair outside, and thongs at both ends for closing it and fastening it securely. The small inner

bag was of tanned deerskin, as was the paint applicator. This artifact was almost certainly of historic date, for attached to one of the outer wrapping thongs was a short length of machine-braided cord.

Also inside the cave, and at approximately the three-foot depth, was uncovered a cylindrical sewn buckskin pouch completely filled with cotton seeds. This pouch was nine inches long, three inches wide at the bottom, and two inches wide at the top.

At about the same three-foot level, but slightly nearer the front of the cave, was an undisturbed prehistoric salt-cache. This consisted of a smoke-blackened corrugated pot, half-filled with large flakes of grayish salt. Capping this pot was an overturned black-on-gray bowl, which was in turn topped by two loosely-constructed grass rings. The bowl was complete except for a small hole apparently purposely punched through the bottom.

Also recovered from this site was a horn "sickle," similar to the one found at 42Sa395, quantities of potsherds, flint, a small number of sandals, several fragments of basketry, pieces of cordage and fiber, and a fair sample of corn and squash remains.

42Sa364 - The scene now shifts approximately 90 river miles upstream to the mouth of Redd Canyon, which flows into the Colorado from the east approximately 12 miles below Hite, Utah. The site we will now discuss, 42Sa364, is in the location marked "Area II" on the map.

This was the largest site excavated last summer. In size and in a number of other features, it differs from the sites in the lower part of the Glen Canyon. Situated on a 40-foot high rock bench, 42Sa364 faces the river across a quarter-mile wide strip of sand terrace. This strip of land, which runs for almost a mile paralleling the river, plus numerous open stretches of the wide floor of Redd Canyon, must have supplied plentiful farm lands for the aboriginal inhabitants. In fact, this land has been farmed in recent times, one of the few stretches in the Glen Canyon that has been devoted to historic agriculture. Bert Loper, the "Grand Old Man of the Colorado," built a cabin and lived here from 1907 to 1915, while Bud Vinger, the present tenant, has lived here for a number of years, though he no longer farms the land.

Site 42Sa364 has two parts, a line of rooms built against the low cliff, and an L-shaped pueblo just above it atop the rock and gravel bench. The lower cliff ruin must have been a two-story affair, since one of the crosswalls still stands almost 12 feet high and shows the holes where the second-floor beams rested. There are remains of three rooms on the ground level, so

the structure must have once included five or six rooms. Parts of the four cross-walls still stand, but the long front wall has collapsed outward. There was apparently an entrance at each end of the structure, with internal doors leading from each of the end rooms into the middle rooms. Part of this small cliff ruin apparently burned, and the whole second story collapsed into the ground floor rooms. Approximately two to three feet of trash and roofing material was found in the rooms. The ruin is sheltered somewhat by overhanging ledges, so a considerable quantity of perishable materials was recovered, including cotton bolls, corncobs and squash, fragments of sandals, and a ground-stone ax with the original haft-bindings.

The ground-floor rooms of this part of the site utilized the sandstone bedrock for floor surfaces. This had somewhat decomposed, making it hard to clear the original floor. Despite this difficulty, it was clearly determined that no firepits or fire-areas existed in these rooms. Perhaps they were used only for storage.

The upper part of the site has an L-shaped groundplan, with two rooms in each wing. Parts of the walls still stand at two-story height, so this pueblo may have originally included six to eight rooms. Flanked by this masonry structure is a large circular depression, averaging 30' across. It was at first thought that this might be the remains of a kiva, but a trench through it showed nothing more than a large basin-shaped pit. The fill, which is fairly loose sand, is about four feet deep in the middle of the pit, and includes scattered potsherds and traces of charcoal all the way down. The edges of the pit or depression are some two feet higher than the surface of the fill, making a maximum relief of six feet. Why such a pit should have been made, for no discernable purpose, remains a mystery. The gravel and caliche soil here presents the toughest kind of digging, particularly to aboriginal tools. It remains an interesting problem, and more excavation may be done here next season in an attempt to solve it.

Excavations in the L-shaped pueblo showed only very shallow fill in the rooms. Also, no refuse mound or midden could be located, trash apparently having been distributed in a thin sheet around the pueblo. Floors in the rooms were poor, hardly more than a levelling of the original rough gravel surface. And, as in the cliff rooms below, no firepits were found, indicating that the second floor may have been the main living level. Unlike the cliff rooms, this part of the site was exposed to rain water, and little more than occasional potsherds was found in the excavation.

The masonry at this site was in general good, long, thin slabs being shaped and squared off neatly, with smaller slabs and spalls fitted in to face up the wall. Part of this effect may be due to the use of the Moenkopi sandstone, which fractures regularly and easily, in contrast to the more difficult Navaho sandstone utilized in the lower part of the canyon. However, despite the differences in material, a difference in type of construction and quality of workmanship between this site and Talus Ruin can be easily ascertained.

The pottery made at 42Sa364, on superficial analysis, shows some resemblance to the pottery made by the pueblo-dwellers of the Mesa Verde area, though some pieces also show resemblances to the Kayenta area pottery. Some of the types represented are relatively late, giving a tentative terminal date for the ruin in the late 1100-1200 A. D. period.

Thus by comparing this one site from the upper part of the Glen Canyon with several from the lower part, some differences can be seen. This evidence is as yet too scanty for sound interpretations, however. Museum of Northern Arizona surveys report several fairly large open masonry sites above Redd Canyon, and a number of small cliff pueblos in tributary canyons between Redd Canyon and the San Juan. Some of these sites will be excavated next summer. This work should make clearer the differences--and similarities--which exist in the archeology of the canyon as a whole.

This winter, the author is engaged in preparing a report on the sites which were excavated and Don Fowler is writing an account of the sites located by survey. These reports will appear next spring or summer in University of Utah Anthropological Papers.

William Lipe

Lipe

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