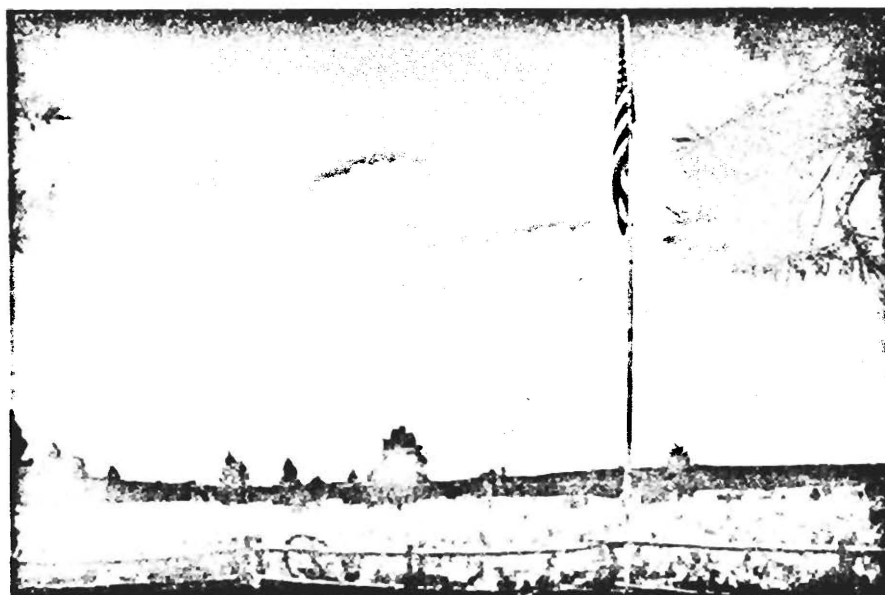


RECONNAISSANCE
of the
SHIVWITS PLATEAU
July, 1969



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RECONNAISSANCE
of the
SHIVWITS PLATEAU

I. Introduction

A reconnaissance of the Shivwits Plateau was made by Chief Park Naturalist Doug Evans, Park Naturalist Jim Maxon, and Park Ranger Rick Gale from July 6 to July 11, 1969. This is a report of their observations and recommendations.

The itinerary of the group was as follows:

- July 6 - Sunday : Evans and Maxon drive from Boulder City to Shivwits Fire Camp; Gale fly direct to Camp from Katherine with Pilot Hoogerwerf. Drive to top of Mt. Dellenbaugh in evening.
- July 7 - Monday : Examine archeological sites east of Fire Camp. Drive to Green Springs Canyon.
- July 8 - Tuesday : Drive to Penn's Pocket, Blue Mountain, and Price's Pocket.
- July 9 - Wednesday: Drive to Twin Point and Twin Springs Canyon with Fire Control Aid Ted Hamblin.
- July 10-Thursday: Examine archeological site west of Fire Camp;
- Reconnaissance flight over area.
Drive to Pine Valley.

July 11 - Friday : Drive to top of Mt. Dellenbaugh
in morning.

Pack up and depart in afternoon;

Evans and Maxon drive to Boulder City,
Gale fly to Katherine.

The greatest obstacle to such a reconnaissance of Shivwits is the condition of the "roads". They are merely truck trails and necessitate the use of four-wheel drive vehicles. Many sections can only be driven at three miles per hour. An intensive survey of the Shivwits, and adjacent canyons, would require considerably more time than was spent on this one.

II. The Natural Setting

Physiography

The Shivwits Plateau forms the western end of the north rim of Grand Canyon. It is bounded on the west by the Grand Wash Cliffs, and on the south and east by the Grand Canyon and its tributary canyons. The country to the north is quite similar, physiographically, to the Plateau itself, but averages about a thousand feet lower in elevation. Most of the Plateau lies above 6,000 feet. The highest point is Mt. Dellenbaugh, elevation 6,990 feet.

The topography is relatively gentle with a few low hills rising above the general level. Numerous shallow drainages become increasingly rugged as they approach the Canyon Rim.

The basic rock of the Shivwits Plateau is the Permian Kaibab Limestone which forms the rims of Grand Canyon throughout its entire length.

Chert nodules and fossils of crinoids and brachiopods are locally abundant in the Kaibab.

Quaternary basalt overlies the Kaibab Limestone throughout much of the Plateau surface within the Recreation Area. Mt. Dellenbaugh, Price's Butte, and Blue Mountain are composed of this basalt.

As elsewhere along the North Rim of Grand Canyon, springs generally occur under the Rim where aquifers have been exposed by erosion. Twin Springs, Green Springs, and Penn's Pocket are typical examples.

Biology

The principle biotic community of the Shivwits Plateau is the Juniper-pinyon Community with local concentrations of ponderosa pine, generally along drainages. Open flats, covered with sagebrush and grasses, are interspersed throughout the forest.

Common trees and shrubs of the Shivwits include:

Utah juniper	-	<u>Juniperus osteosperma</u>
Colorado pinyon	-	<u>Pinus edulis</u>
Ponderosa pine	-	<u>Pinus ponderosa</u>
Gambel oak	-	<u>Quercus gambelli</u>
Shrub live oak	-	<u>Quercus turbinella</u>
Fremont hollygrape-		<u>Berberis fremontii</u>
Cliffrose	-	<u>Cowania mexicana</u>
New Mexican locust-		<u>Robinia neo-mexicana</u>
Sagebrush	-	<u>Artemesia tridentata</u>
Ephedra	-	<u>Ephedra sp.</u>

Shivwits mammals include:

Utah rock squirrel	-	<u>Citellus variegatus utah</u>
Cliff chipmunk	-	<u>Eutamias dorsalis utahensis</u>
Porcupine	-	<u>Erethizon dorsatum</u>
Mountain cottontail	-	<u>Sylvilagus nuttallii</u>
Black-tailed jackrabbit-		<u>Lepus californicus</u>
Mule deer	-	<u>Odocoileus hemionus</u>

Shivwits birds include:

Band-tailed pigeon	-	<u>Columba fasciata</u>
Mourning dove	-	<u>Zenaidura macroura</u>
Gambel's quail	-	<u>Lophortyx gambelii</u>
Sparrow hawk	-	<u>Falco sparverius</u>
Golden eagle	-	<u>Aquila chrysaetos</u>
Stellar's jay	-	<u>Cyanocitta stellari</u>
Scrub jay	-	<u>Aphelocoma coerulescens</u>
Mountain chickadee	-	<u>Parus gambeli</u>
Plain titmouse	-	<u>Parus inornatus</u>
White-throated swift	-	<u>Aeronautes saxatalis</u>
Flicker	-	<u>Colaptes auratus</u>

Reptiles are not as well represented in the Juniper-pinyon Community as in the lower desert shrub communities. Observations of reptiles were not made on this survey, however, species reported to occur on the Shivwits include:

Western fence lizard	-	<u>Sceloporus occidentalis</u>
Tree lizard	-	<u>Urosaurus ornata</u>
Gopher snake	-	<u>Pituophis catenifer</u>
Western diamondback rattlesnake	-	<u>Crotalus atrox</u>

Climate

The climate on the Shivwits is typical of those elevations throughout the Grand Canyon Country. Summer temperatures are mild with daytime highs reaching occasionally into the lower 90's. Local thunderstorms, which produce torrential rainshowers, occur frequently in summer.

Winters are cold and snowy. Data is unavailable, but snow probably accumulates to depths of two feet, with occasional packs to three feet.

III. History

Archeology

During the reconnaissance of the Plateau, nine archeological sites were briefly visited. All but two had been previously located. These include Arizona A:14:2, A:14:3, A:15:1, A:15:2, A:15:3, G:3:20, and A:15:5. A new site Arizona A:14:7 was found just east of the Twin Springs road approximately 2.7 miles south of the Oak Grove gate. The site is approximately 75 yards southeast of the road and just opposite a Lake Mead boundary sign. The site is in a grove of oaks on a small ridge. Another new site Arizona G:3:31 was located along the road about 3 miles south of Price Butte.

All of the sites are primarily "lithic" sites. A few sherds of pottery were the only other cultural material found. Only one of the sites had surface evidence suggesting that structures were present. Arizona A:14:3 located about 3/8 mile west of the Fire Camp has a fairly well defined "teepee ring" of stone. These sites appear to be campsites or perhaps simply "work shops". The known archeological sites are generally located near sources of water. The heads of canyons which have springs, for example, have concentrations of sites.

The artifacts from the sites were uniform in typology and material. The objects were almost universally of chert and chalcedony with a small percentage of obsidian. These consisted of projectile points, scrapers and miscellaneous flakes. A detailed analysis of this material will be prepared at a later date, and a synthesis of Shivwits archeology attempted.

The known sites which were visited were located during the course of three brief archeological surveys of the Shivwits area. The first of these was conducted by

Gordon Baldwin in 1942. Albert Schroeder visited the area in 1930 and 1951. Richard Shutler also worked in the area in 1956. As a result of this work 63 sites have been located on the Shivwits Plateau itself. During these surveys additional sites were located in Whitmore Canyon and other nearby locations.

On the basis of these surveys and our brief observations we can offer the following tentative and quite sketchy picture of Shivwits prehistory.

Present evidence indicates occupation by at least two distinct cultural groups with considerable time depth. The earliest occupation appears to be by scattered groups of Pueblo-like people of the Virgin Culture, a western Anasazi "frontier development". The use of the plateau by these people was apparently primarily seasonal as the evidence of their presence is from pottery found at campsites without any permanent structures. There is only one permanent Pueblo structure presently known on the plateau. This small Pueblo is near Price's Pocket. The presence of a few Pueblo sites in Whitmore Canyon, and presumably other nearby canyons, would suggest that people from those areas were coming up on to the Shivwits Plateau and camping for short periods of time. These trips could have been made for hunting, and to take advantage of seasonally available plant foods such as the pinyon nut harvest in the fall. Pottery types from these sites indicate an occupation during the 11th and 12th centuries. The pottery types show close affinities with the Pueblo pottery in the Moapa Valley such as the Lost City sites. The Pueblo people in this region are known to have left some time before A.D. 1200. We can infer that Pueblo occupation of the Shivwits area also terminated about this time. After this time, groups of Plateau Shoshonean speaking groups occupied this region. Perhaps they were present during the Pueblo occupation as well. These people, of whom we have definite archeological evidence after A.D. 1200, were ancestors of the historic Shoshonean groups - including the various bands of southern Paiute people, who occupied the Shivwits Plateau.

A number of the lithic sites on the Shivwits, which lack pottery, belong to these earliest Shoshoneans. The few sites which have Paiute pottery, of course, represent this later occupation. Generally, we can assume that the Shivwits Plateau has been occupied continually, at least on a seasonal basis, from about A.D. 1000 until historic times by at least two culturally distinct Indian groups. The Pueblo people of the Virgin Culture used the plateau for hunting and gathering for perhaps 200 or 300 years before A.D. 1200. Then from A.D. 1200, perhaps earlier, various groups of Shoshonean people occupied the Shivwits Plateau for hunting and gathering purposes until late historic times.

A thorough archeological survey is needed for a fuller understanding of the prehistory of the Shivwits, and to clarify the problems for further research.

History

Many explorers passed near the Shivwits Plateau during the early historic period. Padra Escalante in 1776 came south from the St. George area and then turned east on his return trip. The Virgin River Valley, northwest of the Shivwits Plateau, was an important route for exploration and travel. The old Spanish Trail followed the Virgin Valley.

Jedediah Smith passed through the region in 1826 and 1827.

Santa Clara, St. George, and other towns were founded soon after Salt Lake, as the Mormons began to consolidate their position in Utah. These farming communities prospered along the Virgin River in the last part of the 19th century.

Members of exploring and hunting parties from these settlements were, perhaps, the first white people to reach the Shivwits Plateau itself.

The most dramatic event in Shivwits history was the deaths of the three men who left the Powell Expedition. After a dangerous and exhausting three-month exploration of the Colorado River, Bill Dunn, O. G. and Seneca Howland decided to leave the Expedition, and attempt to reach the safety of St. George. On the morning of August 28th, they sadly watched their comrades plunge into a series of rapids, and then began to climb up from the depths of the Grand Canyon. They were able to climb up through Separation Canyon and reach the Plateau. They had guns, and could find food. But, perhaps, water was a problem. In the dense timber their direction of travel couldn't easily be determined. Near the top of Mt. Dellenbaugh there is an inscription

" DUNN 1869 WATER —————> "

Did the three climb up to determine which way to go and to look for water? Was the inscription left in hopes that Major Powell might soon follow them to safety? Is the inscription even authentic?

The details are not complete. The three were befriended by a band of Shivwits Indians and for a time their safety seemed assured. Then word spread, from another nearby band, of three miners who had molested their women. Surely it must be these three, for no one could come down the Colorado in wooden boats. So the three unsuspecting explorers were ambushed by the Indians and mistakenly killed.

Near the end of the century, the people of St. George began to use the resources of the Shivwits Plateau. Lumber mills, a mine, and even a dairy were established. By the early 1900's cattle grazing was common and a few people were living on the Plateau.

Today the area is still much the same as it was then. Two other lumber mills (the Parashaunt mills) were established and abandoned.

Ranchers have come and gone and the dairy and mine are no longer operating. There are probably fewer permanent residents now than 60 years ago.

The evidence of this history is still present. A few old buildings, bits of machinery, and piles of lumber still mark the sites of the lumber mills. Various old corrals, hand hewn wood stock watering tanks and log cabins testify to the ranching use. These and other historic evidences are not spectacular, but they are important and typical of the late western frontier development.

This historical summary is necessarily general because of a lack of specific information. The need for a more thorough search of the historic records is evident.

IV. Resources Management

Boundaries

The boundary of the Recreation Area on the Shivwits Plateau has been revised. Several sections of land have been added including the section in which the Fire Camp is located, and additional land to the west. Our reconnaissance did not indicate the need for any further adjustment of the boundaries.

Inholdings

The amount of inholdings on the Shivwits Plateau has been greatly reduced in the last several years. At present there are approximately seven sections equivalent of land in non-Federal status on the Shivwits Plateau itself. In addition, there is approximately another one and one-half sections of private lands located to the east of the Plateau.

Mineral leases have been issued for approximately an equivalent of eight sections of land east of the Plateau proper.

Grazing

The following grazing allotments chart indicates the current permits and amounts of land involved.

<u>Number</u>	<u>Name</u>	<u>Permittee</u>	<u>Acreage</u>
10-38	Colorado Snap	Mathis Marketing)	21,758
10-37	Burnt Canyon	Mathis Marketing)	
8/9-230	Home Ranch	J. D. Waring	102,600
8/9-36	Parashaunt	Mathis Marketing	121,600
8/9-221	Mule Canyon	Chester Bundy)	
8/9-227	Shultz Spring	Chester Bundy)	24,680
8/9-228	Cedar Spring	Chester Bundy)	
8/9-229	Dripping Spring	Afton Snyder	5,750
2-39	Andrus Spring	Roland Esplin)	
8/9-220	Grassie	Roland Esplin)	10,650
8/9-224	Frog-Cane Springs	Orvel Bundy	11,930
8/9-223	River	Vivian Bundy	6,380
8/9-222	Pa's Pocket	T-J Cattle Co.	9,000
2-102	Big Spring, Pipeline	Anderson & Larsen, Cleo Wood	14,950
Total Acreage			329,298

Present Protection Policies

A full time Fire Control Aid is stationed on the Shivwits Plateau during the summer fire season - approximately June 1 through Labor Day. Recently, a husband and wife team has been

employed with the wife working two days a week and the husband five days a week to provide daily coverage.

A truck trail has been put in to the top of Mt. Dellenbaugh approximately two and one-half miles south of the Fire Camp for fire lookout purposes.

Mt. Dellenbaugh, elevation 6,990 feet, is the highest point in the Recreation Area and gives good visual coverage of the entire Shivwits country. Because of the rough nature of the road it presently takes approximately 45 minutes by 4-wheel drive vehicle to reach the top of the mountain from the Fire Camp. There is no fire finder on Mt. Dellenbaugh at present. The area is checked from this point every day that weather conditions warrant. The basic meteorological observations needed for determining the current fire danger are made at the Fire Camp.

The airplane, pilot, also, checks the Plateau during routine or special patrols in the area. In addition, the Bureau of Land Management checks the area during their air patrols.

The Fire Control Aid also performs a number of other related duties in addition to detecting and suppressing fires. In practice he functions more as a Ranger than a Fire Control Aid. He is normally the sole representative of the National Park Service on the Shivwits, so he must also be a Ranger and an Interpreter. In addition to the above duties, he becomes the liaison between present day ranchers in the area and the National Park Service. To be effective, the incumbent must be mature, tactful, and have the ability to work and make decisions independently.

Despite the pleasant setting, living conditions for the Fire Control Aid must be considered sub-standard. Quarters consist of an old rather small house trailer in rundown condition. There is no water at the Fire Camp.

It must be pumped from a well about one mile away, hauled in the tank of the fire suppression pumping unit, and pumped again into a small storage tank at the Fire Camp. This time consuming procedure must be repeated every three or four days. Electric power is supplied by a small portable gasoline generating unit. There is a smaller auxiliary unit. The nearest community with shopping and medical services is St. George, Utah, 90 miles to the north. Approximately 80 miles of the road is not paved and sections can be impassable after heavy rains.

A prefab metal utility building, about 15' x 30', serves as a repair and storage shop. Also, there is an old truck-trailer which serves as a cache for fire tools and related equipment.

Park Rangers are assigned to the Shivwits Plateau during the fall months, especially during the deer hunting season, for general public contact and patrol purposes. The Overton District Ranger and his staff also visit the area from time to time.

V. Visitor Use

Isolation and the primitive roads preclude heavy visitation. During this reconnaissance, no visitors were observed on the Shivwits. Peak travel occurs during the deer hunting season in the fall. Approximately 100 hunters are estimated to have used the Shivwits during the 1968 season.

Visitor activities on the Shivwits are those based on the use of heavy-duty vehicles - mostly four-wheel drive. Exploring, primitive camping, sight-seeing along the Canyon rim, and deer hunting, seem to be the most popular activities.

The collecting of archeological artifacts is rumored to occur in the Shivwits Country, however, this reconnaissance revealed very little to attract this activity.

Perhaps archeological sites within the Canyon are more attractive to looters. Unfortunately, virtually nothing is known of inner Canyon archeology at present.

VI. Recommendations for Future Management and Use

Visitor Use

The types of recreational activities which prevail on the Shivwits at the present time seem to be logical and desirable. Opportunities to explore wild forest lands by vehicle are not common in the Southwest, and will undoubtedly become less common in the future.

Perhaps the most valuable recreational resources of the Shivwits are its isolation and lack of development. These provide the opportunities for inspiration, for rest and relaxation, as well as the physical challenges needed, and desired, by modern man.

Recommended recreational activities include the following:

Driving: Driving in adequate vehicles to explore the forest lands and Canyon Rim is most enjoyable and should be encouraged in the future. The existing road system is adequate for this purpose. Maintenance should be restricted to only that which is necessary to keep the roads passable for heavy duty vehicles.

Camping: Primitive camping, with no facilities whatever, should be encouraged. Campsites should not be designated. Campers should have the opportunity to select their own camp locations.

Hiking: Hiking along the roads and cross-country through the forest is a desirable activity. Remote Canyon rim viewpoints are excellent hiking destinations. Additional trails are not needed on the Plateau.

A study should be made below the Canyon Rim to determine the feasibility of an inner-canyon trail system. Potential for trails exist in Green Spring, Twin Springs, Separation, and Andrus Canyons.

Horseback Riding: The Shivwits affords many excellent opportunities for riding horses. Routes and destinations are the same as for hiking. Arrangements for horses should be made with private individual horse owners outside the Recreation Area.

Hunting: Hunting is a desirable recreation activity on the Shivwits. Game animals include deer, cottontail rabbit, mourning dove, and Gambel's quail. Bighorn sheep might also occur in adequate numbers below the Canyon Rim to justify a limited season on them.

Interpretive and informational services: The visitor to the Shivwits Plateau should have knowledge of its geography and resources. This should be made available to him in the form of maps, publications, and informal contacts with National Park Service employees stationed in the area. The construction of interpretive facilities is not needed.

Resources Management

The primary mission of the Lake Mead National Recreation Area is to provide for recreation in a superlative outdoor environment. The management of resources on the Shivwits should be guided by this principle. The consumptive uses of these resources should not be permitted to interfere with this primary mission.

Timber resources: The forests of the Shivwits should be managed to perpetuate a healthy and esthetically attractive environment to enhance the desired recreation activities listed above. Lumbering has already reduced the timber resources of the Shivwits to a level which makes further cutting undesirable. Fire should continue to be controlled as it is at present. Forest disease should be controlled to the fullest extent feasible.

Wildlife resources: Healthy wildlife populations should be the objective on the Shivwits to enhance its recreation mission. Hunting of game species should be strictly controlled to prevent depletion of populations. Non-game species should be protected as in Natural Areas.

Water resources: Water supplies on the Shivwits are apparently meager. Any development of these resources should be done with extreme care, following intelligent study, to insure that the discharge of natural springs below the Canyon Rim is not disrupted.

Grazing lands: Cattle grazing is an acceptable use of grasslands on the Shivwits. It should be carefully controlled to prevent over-grazing of grasslands. Other animals, such as sheep and goats, should not be permitted on the Shivwits.

Mineral resources: There are apparently no commercially attractive minerals on the Shivwits. Mining activities should not be permitted above the Canyon Rim. Mining below the Rim should be carefully controlled to preserve the esthetic values of the Canyon.

Facilities Requirements

The development of physical facilities should be kept to the absolute minimum required to meet the recreation objectives for the Shivwits. No additional roads should be constructed. Campgrounds, picnic areas, modern restrooms, and concession developments are not needed and should not be constructed.

Road maintenance should be restricted to that required to keep them passable to heavy duty vehicles.

Inner-Canyon trails should be constructed in accordance with the findings and recommendations of the study mentioned above.

Domestic water supplies should not be developed except at the Ranger Station.

A Ranger Station, with adequate facilities for living, secure storage of supplies and equipment, and administrative space, should be constructed.

Manpower Requirements

It is recommended that a permanent Park Technician, GS-5, (Resources Management), be stationed on the Shivwits throughout the summer and fall seasons - as early and as late as weather conditions permit. His functions would include fire protection, on-site supervision of grazing and mining activities, public relations with local ranchers, contacts with hunters and other visitors, search, rescue, and law enforcement activities.

It is also recommended that a seasonal Park Technician, GS-4, (Fire Control) be stationed on the Shivwits from June through August to assist the permanent Park Technician with the above listed functions, and to provide area coverage seven days each week.

Needed Research

The Shivwits and surrounding canyon country virtually unknown ecologically and historically. Detailed management decisions cannot be made prudently until much more is known of the resources of this vast and rugged region.

A detailed ecological analysis is needed to inventory the biological resources and to determine the ecological health of the area.

Studies are needed to identify significant geological resources, and to relate Shivwits geology to that of the surrounding Grand Canyon Country. Surveys of water resources are needed.

A survey is needed to identify and evaluate the archaeological resources of the Plateau and Canyon.

A synthesis of the widely scattered and little known elements of Shivwits history is needed.



Road to Shivwits Plateau, south of St. George
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Cabled juniper; range "improvement" project
 of the Bureau of Land Management



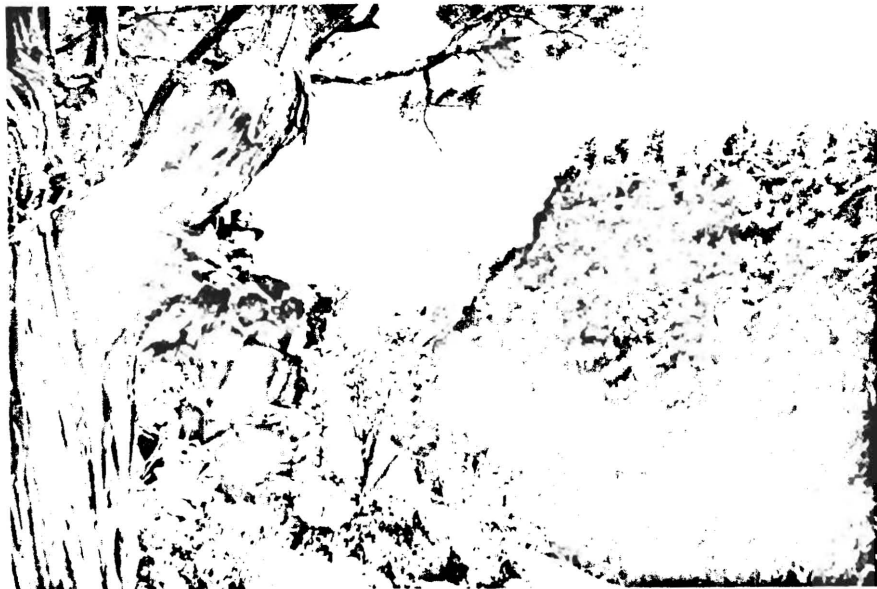
Mt. Dellenbaugh, the highest prominence on the Shivwits.



Grand Canyon viewpoint along truck trail to Twin Point.



View to south from top of Mt. Dellenbaugh, T
 (Side of A-14-3) located near the camp.



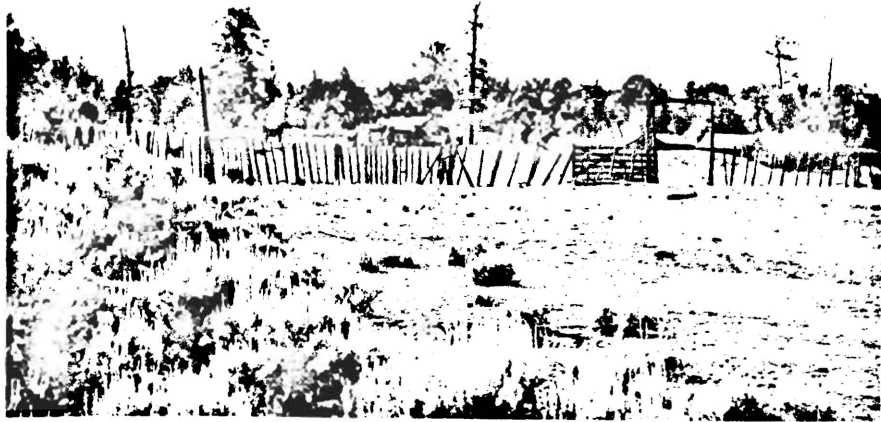
Green Springs Canyon, about 2000 feet in level
 (side of A-14-3)



Typical archeological site of Shivwits Plateau
(Site no. A:14:3) located near Fire Camp.



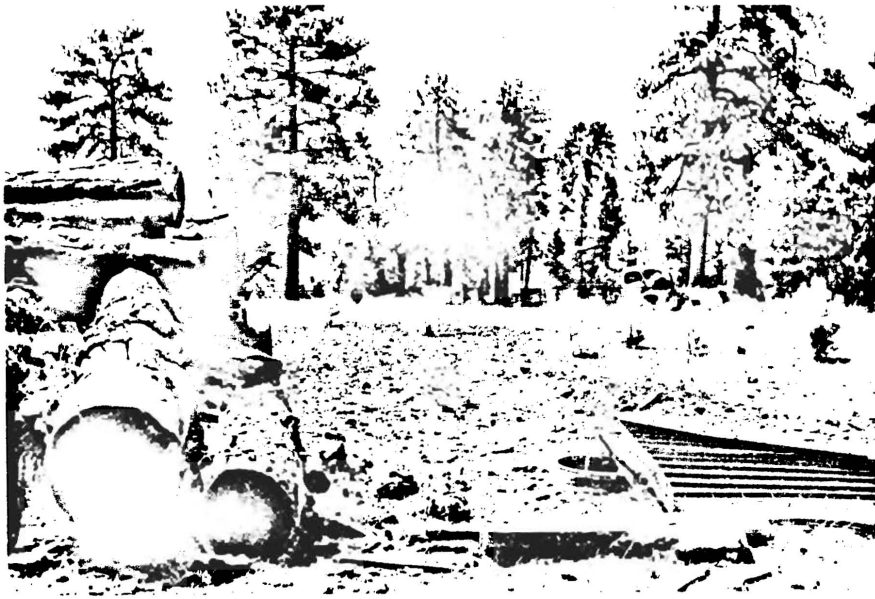
Typical artifacts found in Shivwits archeo-
logical sites.



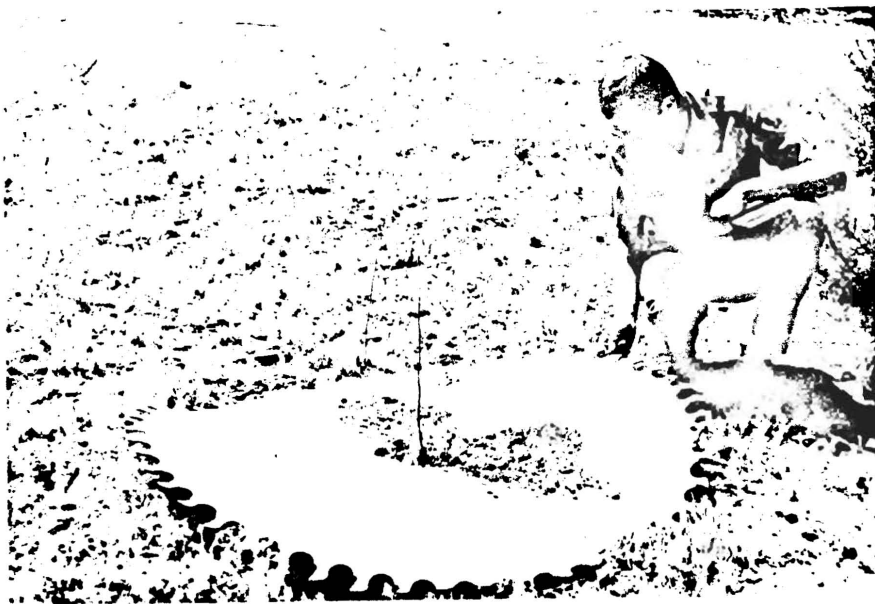
The Waring Ranch, Shivwits Plateau. (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)



Typical rancher's shack on Shivwits Plateau. (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)



Remains of Dame Lumber Mill at head of
Green Spring Canyon.



Old sawblade at Dame Lumber Mill.