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UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

EVALUATION OF NAVIGABILITY

AT THE TIME OF STATEHOOD

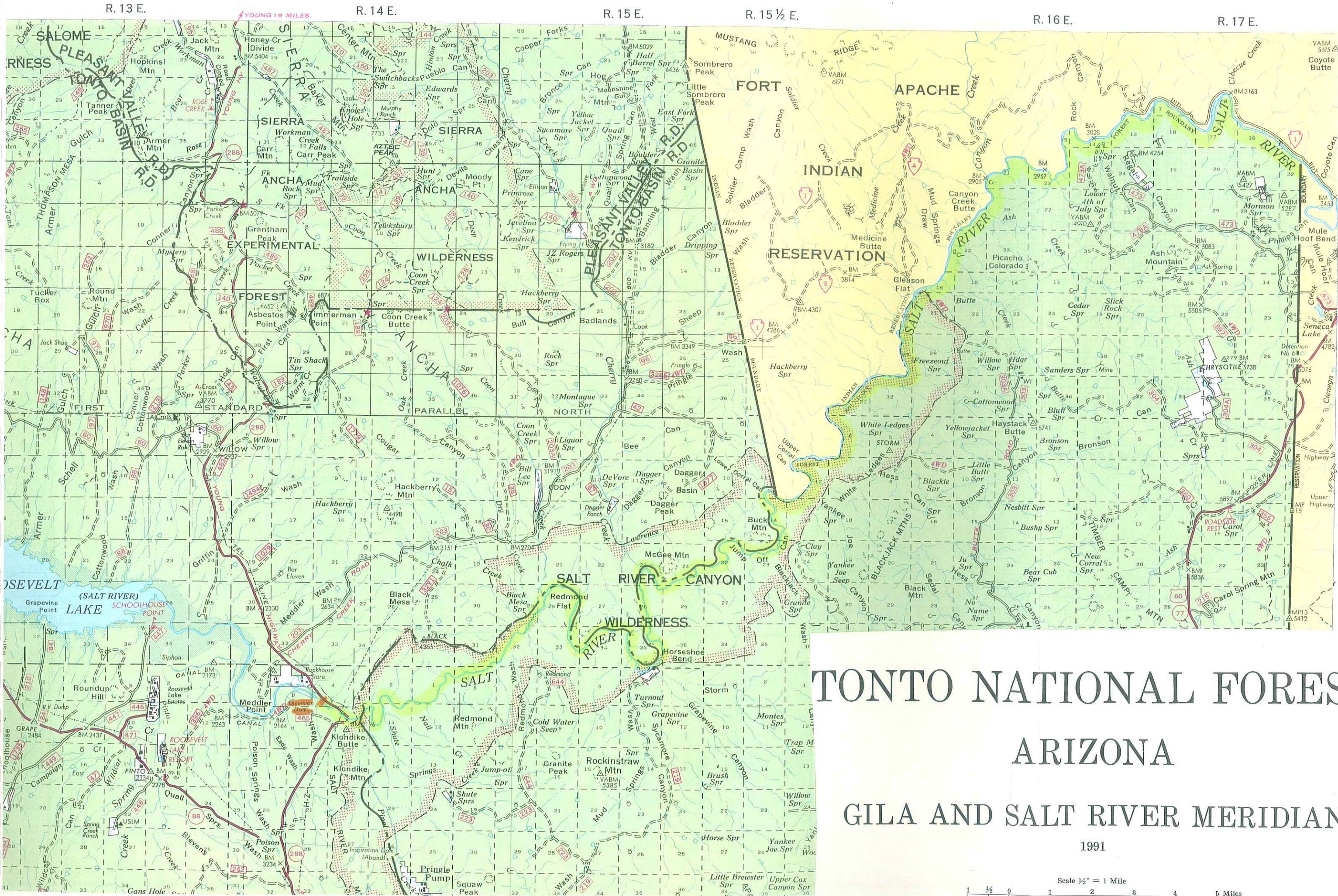
SALT RIVER

(Roosevelt Dam Upstream to the  
Eastern Boundary of the Tonto National Forest)



TONTO NATIONAL FOREST

008



**TONTO NATIONAL FOREST**  
**ARIZONA**  
**GILA AND SALT RIVER MERIDIAN**

1991

Scale 1/2" = 1 Mile



T.5 N.  
T.4 1/2 N.  
T.4 N.

R.13 E. R.14 E. R.15 E. R.15 1/2 E. R.16 E. R.17 E.

YOUNG 19 MILES

SHOW LOW 55 MILES



United States  
Department of  
Agriculture

Forest  
Service

Tonto  
National  
Forest

2324 E. McDowell Road  
Phoenix, AZ 85006  
602 225-5200

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File Code: 2710

Date: February 2, 1998

Navigable Stream Adjudication Commission  
1700 W. Washington  
Room 404  
Phoenix, Arizona 85007

Dear Commissioners:

We appreciate the opportunity to provide input concerning the navigability of the Salt River; needless-to-say we are deeply concerned about the Commission's deliberations since this river passes through the Tonto National Forest. Despite the fact that the lands under this river were reserved from the Public Domain prior to the date of statehood, we believe the Forest Service can provide valuable information concerning the issue of navigability. If a question of land ownership were to develop later, that would naturally have to be decided by a Federal Court.

Our evaluation deals with that portion of the Salt River which is upstream from Roosevelt Dam, and downstream from the eastern boundary of the Tonto National Forest (see enclosed map). Very little information is available about 48 miles of the 65-mile reach of this river we evaluated, for good reason: This 48-miles of river passes through the Salt River Canyon - one of the roughest and remote pieces of ground in the State of Arizona.

The Forest Service has managed this 65-mile reach (as well as the 50 miles below Roosevelt Dam) since 1908. During this time, we have attempted to protect a broad range of public trust and other values. Two of the people on my staff (Rich Martin and Pete Weinel) have personal knowledge of portions of this river for a combined period of over 50 years. Mr. Martin is our Forest Hydrologist and Mr. Weinel is a very experienced river-runner. We believe their first-hand knowledge should be of great assistance in reaching any conclusions concerning navigability of the Salt River.

Section 37-1128 of the State Claims to Streambeds Act states that your Commission shall find and recommend that a watercourse was nonnavigable (unless there is clear and convincing evidence otherwise) if any of nine specific criteria applied. We have not found any evidence (much less clear and convincing evidence) that this reach of the Salt River was





navigated and/or potentially navigable at the time of statehood. This being the case, we evaluated the nine specific criteria which must be used as the basis for a finding and recommendation of nonnavigability if even one of the nine apply. Based on our knowledge of this river over the past 90 years, it is the judgement of the Forest Service that four of the nine criteria do apply, thus mandating, as per Section 1128 of ARS 37, that a Commission finding and recommendation of nonnavigability be made.

Again we appreciate the opportunity to provide input concerning this matter. We are confident you will concur the Salt River definitely is not a navigable river through those National Forest System lands which are addressed in the enclosed report.

Sincerely,

for CHARLES R. BAZAN  
Forest Supervisor

Enclosure

cc: (w/encl.)  
Globe RD  
Tonto Basin RD



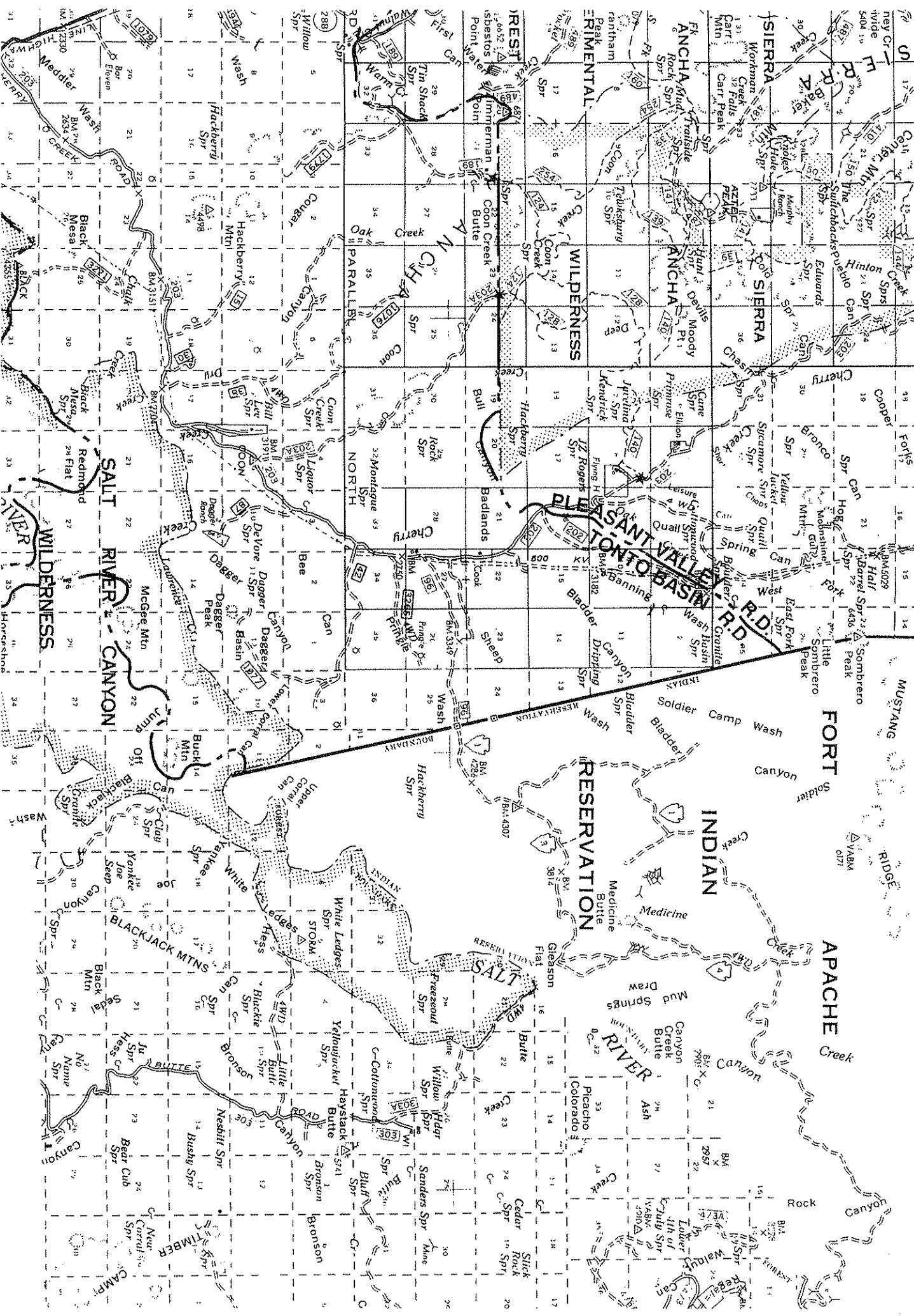
UNG 19 MILES

R. 14 E.

R. 15 E.

R. 15 1/2 E.

R. 16 E.



Meddler  
Wash  
Black Mesa  
Redmond  
WILDERNESS  
SALT RIVER CANYON  
Jumps  
Blackjack  
White Ledges  
Blackjack Mtns  
Butte  
Bronson  
Nesbitt Spr  
Busing Spr  
Bear Cub Spr  
Curtis Spr  
CAMP

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Nesbitt Spr  
Busing Spr  
Bear Cub Spr  
Curtis Spr  
CAMP

**EVALUATION OF NAVIGABILITY  
AT THE TIME OF STATEHOOD**

**SALT RIVER**

(Roosevelt Dam upstream to the  
Eastern Boundary of Tonto National Forest)

January, 1998

Tonto National Forest

Southwestern Region

Forest Service, U.S.D.A.

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# EVALUATION OF NAVIGABILITY AT THE TIME OF STATEHOOD

## CRITERIA D.1.

### Criteria

“Unless there is clear and convincing evidence that a watercourse was navigable, it is presumed, and the Commission shall find and recommend, that the watercourse was non-navigable (with respect to the watercourse as of February 14, 1912) if the following applied:”

“NO SUSTAINED TRADE AND TRAVEL OCCURRED BOTH UPSTREAM AND DOWNSTREAM IN THE WATERCOURSE.” Section 37 - 1128.D.1.

### Analysis

#### SUSTAINED DOWNSTREAM TRADE AND TRAVEL

Although a few logs were floated down the river on one or two occasions, there is no evidence of any sustained trade or travel what-so-ever in the section of the Watercourse covered by this report. This is due to the following:

1) Roosevelt Dam

Construction of a dam (now named the Theodore Roosevelt Dam) across the Salt River began in 1905, and was essentially completed by 1911. At the time of Statehood, passage downstream below Roosevelt Dam and passage upstream above Roosevelt Dam was virtually impossible. All trade and travel were over a new road which ran parallel to the Salt River downstream from the dam; this



road had been built as a necessary part of the construction of the dam and its ancillary features. This gravel road is still in use today, and is now designated State Highway 88 (the "Apache Trail"). The construction of a dam 280 feet in height across the Salt River prior to the date of Statehood basically assures that the non-navigable criteria D.1. is met.

2) **Roosevelt Lake**

The mission of the Commission is to make findings and recommendations to the Legislature as to which watercourses and portions and reaches of a watercourse were (or were susceptible to being) navigable as of February 14, 1912. A "watercourse" is broadly defined in Sec. 37-1101 (item 12) of the STATE CLAIMS TO STREAMBED ACT. Excluded from being considered a "watercourse" are all "man-made water conveyance systems," which includes any "municipal, industrial, domestic, irrigation or drainage water system, including dams, reservoirs and diversion facilities"(emphasis added).

The reservoir (now named Theodore Roosevelt Lake) that was created by the above referenced dam, began filling by 1909. By February, 1912, several miles of the Salt River no longer existed. Although local trade and travel occurred on the lake in that time-period, this did not occur on a "watercourse" since the dam, the reservoir and the Roosevelt Diversion Dam (which was completed in 1906) all qualify as "man-made water-conveyance systems." This being the case, this 17-mile section from Roosevelt Dam to the Roosevelt Diversion Dam must be excluded by law from being considered in the navigability evaluation process.

3) **Steep Gradient**

The 48 miles of river upstream from Roosevelt Lake (known as the "Upper Salt River") is known nation-wide as a first-class whitewater river. The gradient of

the river is one of the reasons for the wild ride encountered by today's boaters. During its rush through 48 miles of the Salt River Canyon, it drops over 1,100 feet, for an average of approximately 23 feet per mile. One three-mile stretch of river drops an average of 31 feet per mile! While each river is unique, it should be noted that the upper Verde River through the Mazatzal Wilderness drops an average of "only" 18 feet per mile, and the Colorado River through the Grand Canyon drops an average of less than eight (8) feet per mile. See Photos #2, #3, #5, #6, #8, #9 and #11 for an indication of the very steep gradients involved on this reach of the Upper Salt River.

4) Water Levels

There are a relatively small number of days per year when the water level itself would have been suitable to allow a canvas, metal, or wooden boat to attempt to travel down this river, even if its gradient would have allowed it. The theoretical "window of opportunity" could occur in almost any month of the year, but it is impossible to predict and thus impossible to plan ahead for. There are entire years when the water never reaches those levels. The Salt River Project's streamflow gages also show that this river can go from a few hundred cubic feet per second (c.f.s.) to over 100,000 c.f.s. in a few short hours. To have been caught on this river making the required multi-day trip, while attempting to use this wild river as a highway of commerce, would have been disastrous. Luckily, there is no record that anyone was stupid enough to try such a trip during or before 1912, nor for many years afterwards.

5) Quartzite Falls and Other Rapids

Use of high-explosives in 1993 to destroy the bedrock which formed a portion of Quartzite Falls made it one of the most well-known rapids in the United States. Even with modern technology, boaters routinely portaged around this

rapid. Such portages took two to four hours, even when traveling light (see Photo #10).

Even though Quartzite Falls would have been the most dangerous rapid encountered in 1912, there are many others which would have been extremely dangerous to someone attempting sustained downstream trade and travel. The following rapids of that nature have been in place for at least the last 30 years, and any one of them could easily destroy any boat available for use in 1912:

- a) Reforma Rapid: See Photo #1, and page #9 of the Recreation Opportunity Guide (R.O.G.)
- b) Overboard Rapid: See Photo #2, and page 9 of the R.O.G.
- c) Exhibition Rapid: See Photo #3, and page #11 of the R.O.G.
- d) Salt River Draw Rapid: See page 11 of the R.O.G.
- e) The Rat Trap: See Photo #5, and page 11 of the R.O.G.
- f) White Rock Rapid: See page 11 of the R.O.G.
- g) Eye of the Needle: See page 13 of the R.O.G.
- h) Black Rock Rapid: See Photo #6, and page 13 of the R.O.G.
- i) The Maze: See page 15 of the R.O.G.
- j) Quartzite Falls: See Photos #8, #9, and #10, and page 15 of the R.O.G.
- k) Corkscrew Rapid: See Photo #11, and page 15 of the R.O.G.

- 1) Cliff Hanger Rapid: See page 17 of the R.O.G.

## **SUSTAINED UPSTREAM TRADE AND TRAVEL**

No watercraft capable of being used for sustained trade and/or travel at the time of statehood could have gone past Roosevelt Dam without being unloaded, dismantled, and transported for a considerable distance overland. The same is true to a lesser degree for the Roosevelt Diversion Dam.

No watercraft capable of being used for sustained trade and/or travel at the time of statehood could have gone upstream through the Salt River Canyon. The cliffs at water's edge, the swift current and numerous rapids would have even precluded pulling an empty watercraft back upstream. Even now, no watercraft has ever gone up the 48 miles of this section of the river.

## CRITERIA D.3.

### Criteria

“Unless there is clear and convincing evidence that a watercourse was navigable, it is presumed, and the Commission shall find and recommend, that the watercourse was nonnavigable (with respect to the watercourse as of February 14, 1912) if the following applied:”

“VESSEL CUSTOMARILY USED FOR COMMERCE ON NAVIGABLE WATERCOURSES IN 1912, SUCH AS KEELBOATS, STEAMBOATS OR POWERED BARGES, WERE NOT USED ON THE WATERCOURSE.”

Section 37 - 1128.D.3.

### Analysis

#### **USE OF WATERCRAFT CUSTOMARILY FOUND ON NAVIGABLE WATERCOURSES**

Of the 65 miles of river covered by this report, at the time of Statehood, 12 miles were within Roosevelt Lake, which by definition is a “Man-made Water Conveyance System”; see Section 37-1101 (items #12 and #5) of the STATE CLAIMS TO STREAMBEDS ACT. This being the case, these 12 miles are precluded by law from being found to be navigable.

Of the remaining miles, 48 miles are located within the Salt River Canyon. It was (and is) physically impossible for vessels customarily used for commerce on navigable rivers (such as keelboats, steamboats, or powered barges) to have traveled upstream or downstream through the Salt River Canyon. These types of watercraft are very heavy themselves, even without a load. They all require water several feet in depth in which to operate. They are also built so that they cannot be portaged without being dismantled.

The steep gradient of the river within the Salt River Canyon, the large number of difficult rapids, the presence of Quartzite Falls, and the huge fluctuations of water levels all precluded these types of watercraft from even having the potential to have been used on this 48-mile reach. See evaluation found under Criteria D.1., page Nos. 1 through 5 for additional details about the river; also see Photos #1 through 12.

## **COMPARABILITY WITH TODAY'S BOATS AND BOATERS**

Although the 48-mile section of river within the Salt River Canyon has been regularly recreationally boated for the past 25 years using technologically advanced inflatable rafts/kayaks as well as plastic/fiberglass canoes and kayaks, even these boats regularly fall victim to the river (see Photos #1, 4, 7, and 12 for examples). River-runners today, with their high-tech equipment and improved techniques, simply cannot be compared with the situation in 1912; to do so would be like comparing a delicate, bruise-prone apple with a thick-skinned, practically indestructible orange. Proof that boaters have run this river in the recent past is simply not directly relevant to the criteria for navigability established by State law.

## CRITERIA D.5.

### Criteria

“Unless there is clear and convincing evidence that a watercourse was navigable, it is presumed, and the Commission shall find and recommend, that the watercourse was nonnavigable if (with respect to the watercourse as of February 14, 1912) the following applied:”

“ANY BOATING OR FISHING WAS FOR RECREATIONAL AND NOT COMMERCIAL PURPOSES.” Section 37 - 1128.D.5.

### Analysis

#### USE FOR COMMERCIAL BOATING OR FISHING PURPOSES

At the time of Statehood, 17 miles of the 65 miles covered by this report were between Roosevelt Dam and the Roosevelt Diversion Dam, which by definition is a “Man-made Water Conveyance System”; see Section 37-1101 (items #12 and #5) of the STATE CLAIMS TO STREAMBEDS ACT. This being the case, these 17 miles are precluded by law from being found to be navigable, whether or not there was boating or fishing for commercial purposes.

Of the remaining miles, 48 miles are located within the Salt River Canyon. This reach was not susceptible of being used for commercial purposes by boating or fishing as of February 14, 1912, nor is there any evidence that it was so used at that time. There was no product produced above the Salt River Canyon which would have had a market at Roosevelt, and there was no product at Roosevelt Lake that could have been transported up through the canyon nor was there a market above the canyon.

All commercial activities on and over National Forest System lands requires autho-

rization by the Forest Service. The first Special Use Permits for any commercial use of the Upper Salt River were issued in 1985 for outfitting/guiding activities. Three authorizations of this type are still in effect. We have no record of any commercial use authorized on this reach prior to 1985; however, some trespass commercial use may have occurred during the years just proceeding that date.



## CRITERIA D.9.

### Criteria

“Unless there is clear and convincing evidence that a watercourse was navigable, it is presumed, and the Commission shall find and recommend, that the watercourse was nonnavigable if (with respect to the watercourse as of February 14, 1912) the following applied:”

“THE UNITED STATES DID NOT REGULATE THE WATERCOURSE UNDER THE RIVER AND HARBORS ACT OF 1899 (33 UNITED STATES CODE SECTIONS 401 THROUGH 467e).” Section 37 - 1128.D.9.

### Analysis

The United States did not regulate this river under the River and Harbors Act of 1899 during February 1912, nor has it done so in the ensuing 85 years. The United States has, however, regulated the portions of this river flowing over National Forest System Lands as per provisions of the Organic Administration Act of 1897, the Multiple Use-Sustained Yield Act of 1960, the Wilderness Act of 1964, the National Forest Management Act of 1976, the Federal Land Policy and Management Act of 1976, and many other laws designed to protect this river and the land under it, while providing for appropriate uses of both.

The Forest Service is the principal Federal agency responsible for the protection and management of those portions of the Salt River flowing through the Tonto National Forest. A variety of other Federal as well as State agencies very much share in this task, while the Salt River Valley Water Users' Association (SRP) controls the rights for consumptive use of the water.

## PROTECTION OF PUBLIC TRUST AND OTHER VALUES

The Salt River from the Roosevelt Diversion Dam to the eastern boundary of the Tonto National Forest has been held in trust for citizens of and visitors to this country since it was reserved from the public domain in 1908. Some 23 miles of this part of the river is now managed by the Forest Service, United States Department of Agriculture, (USDA). For the remaining 25 miles, the middle of the river is the boundary between the Tonto National Forest and the Fort Apache Indian Reservation, and as such there are dual management responsibilities.

Forest Service management of this river is conducted according to Federal laws designed to protect public trust and other values. One such law is the Multiple Use-Sustained Yield Act of 1960 which requires "...management of all of the various renewable surface resources of the National Forests so that they are utilized in the combination that will best meet the needs of the American people..." Another is the National Forest Management Act of 1976 which requires that National Forest System lands be managed in accordance with a comprehensive Land and Resource Management Plan (LRMP) which provides for the multiple use and sustained yield of goods and services from each Forest in a way that maximizes long-term net public benefits in an environmentally sound manner.

Since the passage of the Arizona Wilderness Act of 1984, some 32 miles of this river have been protected by the provisions of the Wilderness Act which was signed into law by the President on September 3, 1964. This legislation states that a Wilderness is "an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain." The law provides for use and enjoyment of wilderness, but in a manner that leaves it unimpaired for future use and enjoyment as a Wilderness.

After extensive public involvement, the Tonto National Forest LRMP was prepared

and approved in 1985. It addresses public trust and other values in the following categories:

- Wilderness Preservation
- Soil, Air, and Water Quality
- Wildlife and Fish Habitat
- Riparian Vegetation
- Outdoor Recreation (including outfitting/guiding)
- Range Management
- Special Land Uses (both recreational and non-recreational)
- Mineral Area Management
- Law Enforcement

Within these categories, the Tonto LRMP specifically promotes Public Trust Values as defined under Arizona Revised Statute (ARS) Title 37 (i.e., commerce, navigation, and fishing) by permitting commercial guides and outfitters to provide recreational trips down the river for forest visitors. River-running activities are also promoted by providing and maintaining access points to the Salt River. Additionally, fishing is enhanced and promoted by providing public fishing-access points to the river, as well as by permitting commercial fishing guides to take customers fishing on the river.

Based on the above, it could be said that management of the Salt River by the Forest Service is already protecting those Public Trust Values defined by ARS Title 37 (as well as many others) since well before Arizona statehood.

## PHOTO INDEX

### PHOTO NO. 1 - Aluminum Canoe, 1975

Below Reforma Rapid, an aluminum canoe that didn't make it.

### PHOTO NO. 2 - Overboard Rapid, 1992

Blasting into the hole at Overboard Rapid.

### PHOTO NO. 3 - Exhibition Rapid, 1975

A kayaker putting on an exhibition in Exhibition Rapid.

### PHOTO NO. 4 - Fiberglass Canoe, 1991

Below Horseshoe Bend, a fiberglass canoe that didn't make it.

### PHOTO NO. 5 - The Rat Trap, 1977

Lining a raft through the hydraulics at Rat Trap Rapid.

### PHOTO NO. 6 - Black Rock Rapid, 1991

A formidable drop which is often portaged.

### PHOTO NO. 7 - Fiberglass Kayak, 1980

Below the Maze, a fiberglass kayak that didn't make it.

PHOTO NO. 8 - Quartzite Falls, 1977

A kayaker running the upper (easier) drop at Quartzite Falls.

PHOTO NO. 9 - Quartzite Falls, 1969

Difficult portage around the lower (more dangerous) drop at Quartzite Falls.

PHOTO NO. 10 - Quartzite Falls, 1990

Difficult portage around both upper and lower drops at Quartzite Falls.

PHOTO NO. 11 - Corkscrew Rapid, 1980

Trying not to capsize in Corkscrew Rapid.

PHOTO NO. 12 - Coleman Canoe, 1991

The "indestructible" canoe that didn't make it.



Photo No. 1 - Aluminum Canoe, 1975



Photo No. 2 - Overboard Rapid, 1992

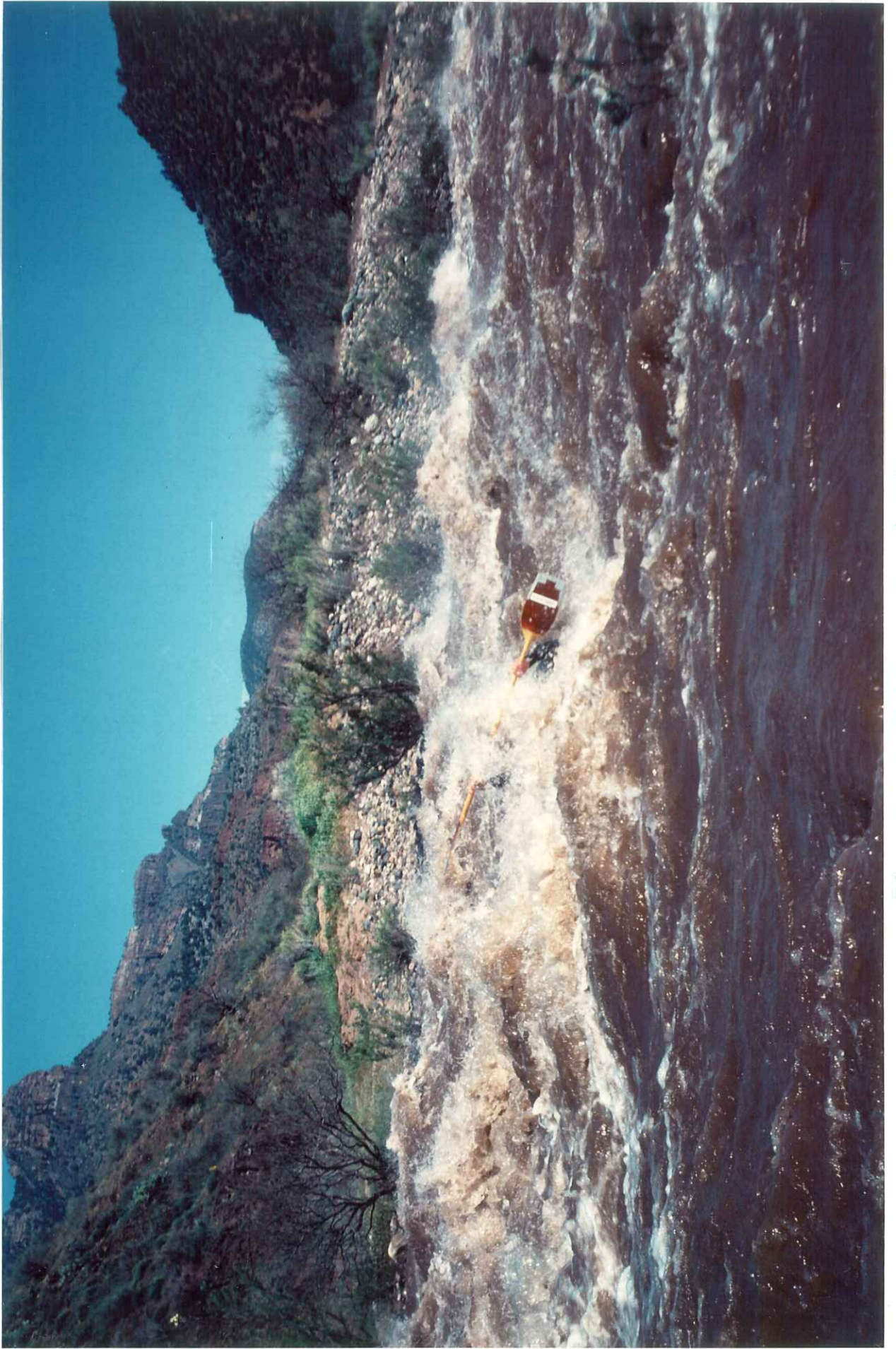


Photo No. 3 - Exhibition Rapid, 1975





Photo No. 4 - Fiberglass Canoe, 1991

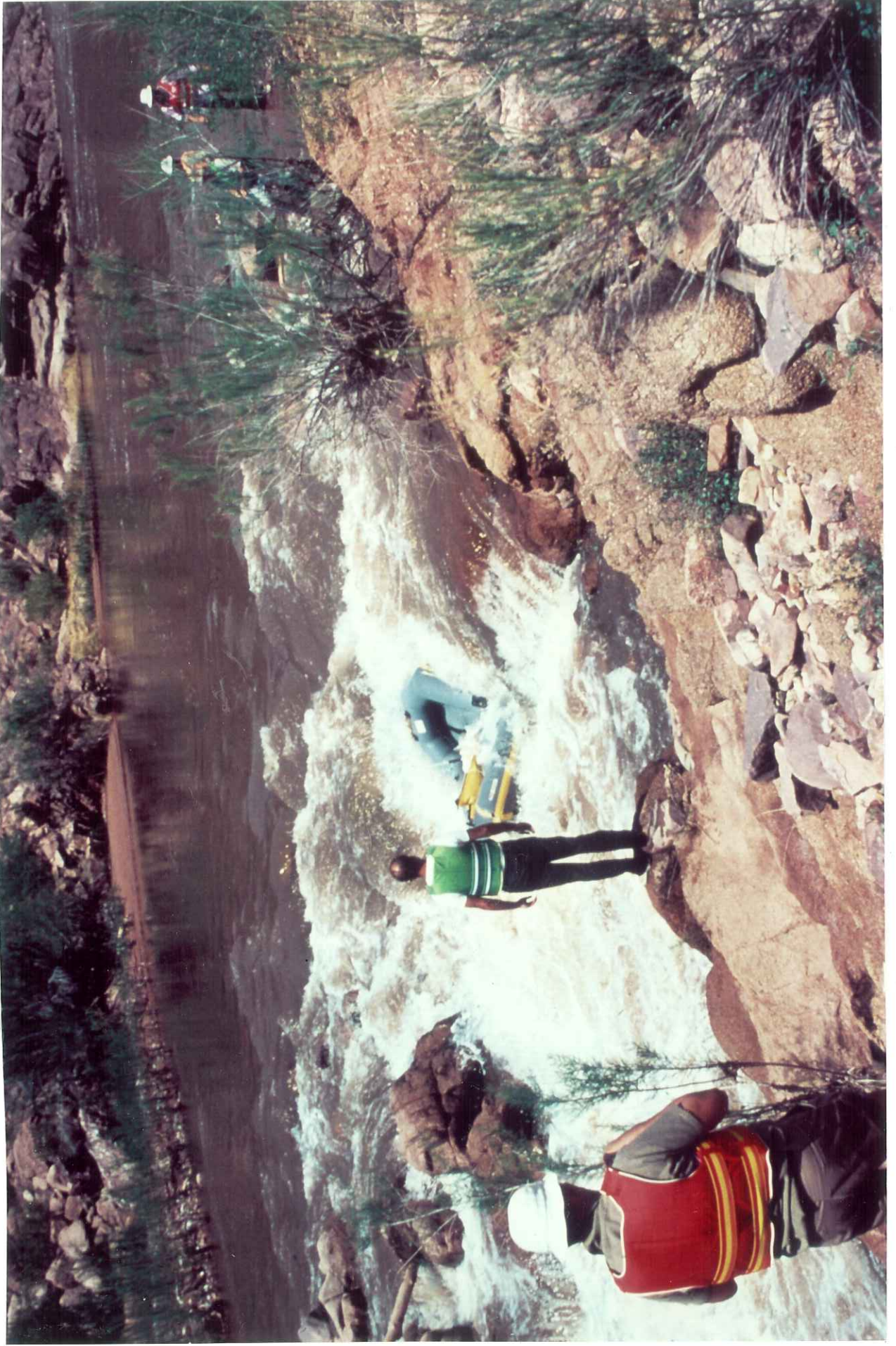


Photo No. 5 - The Rat Trap, 1977



Photo No. 6 - Black Rock Rapid, 1991



Photo No. 7 - Fiberglass Kayak, 1980

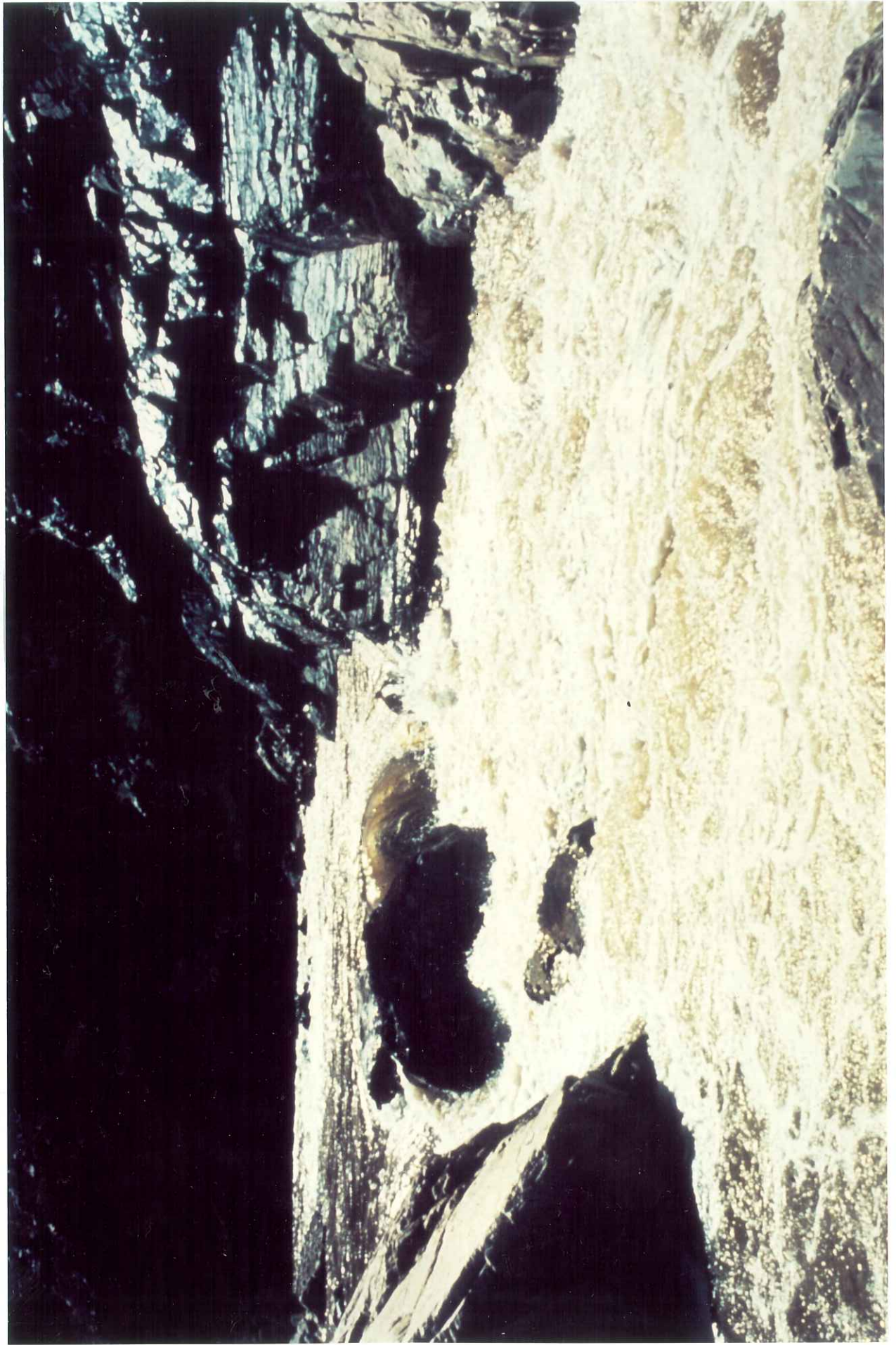


Photo No. 8 - Quartzite Falls, 1977



Photo No. 9 - Quartzite Falls, 1969

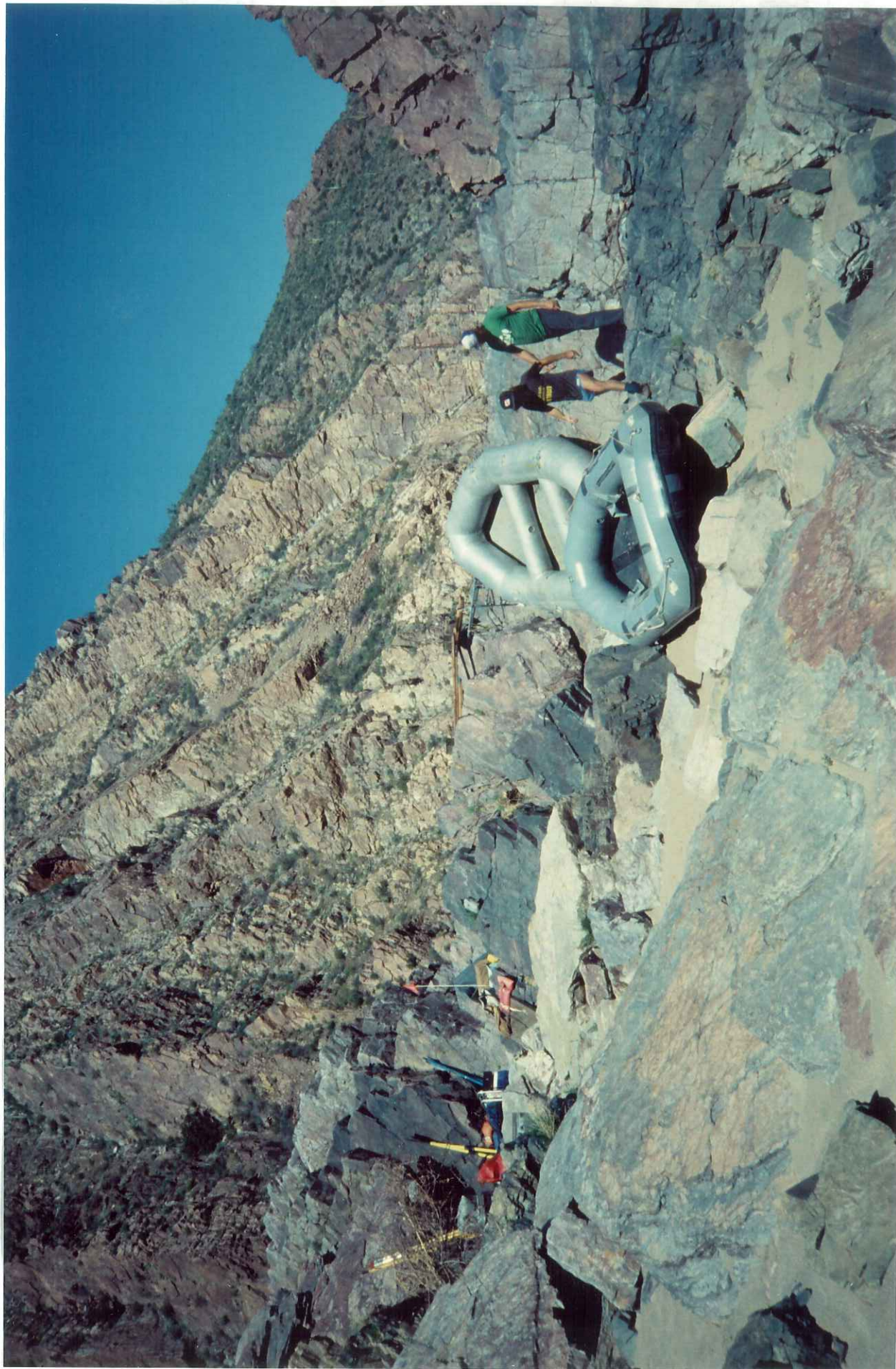


Photo No. 10 - Quartzite Falls, 1990

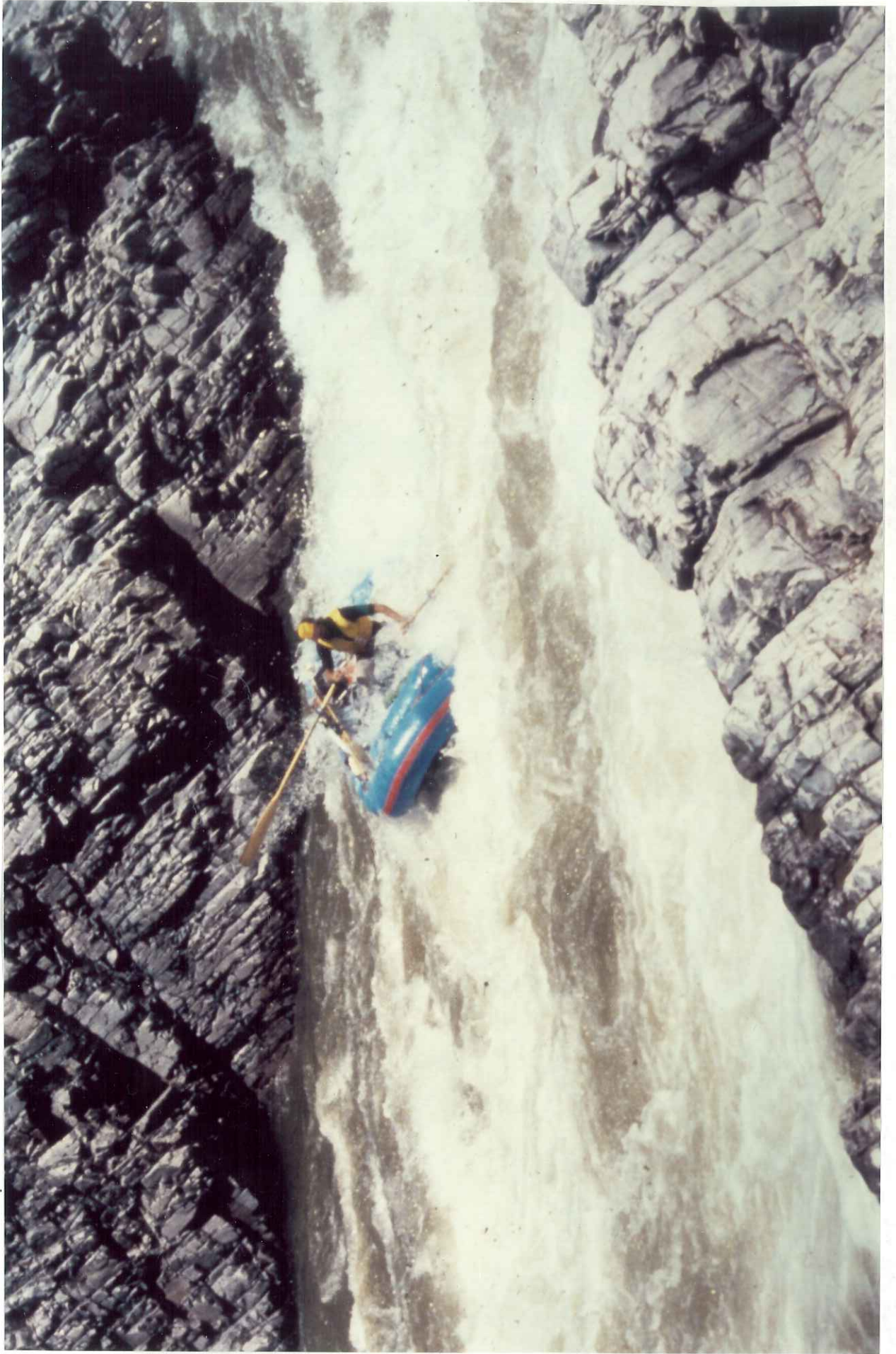


Photo No. 11 - Corkscrew Rapid, 1980



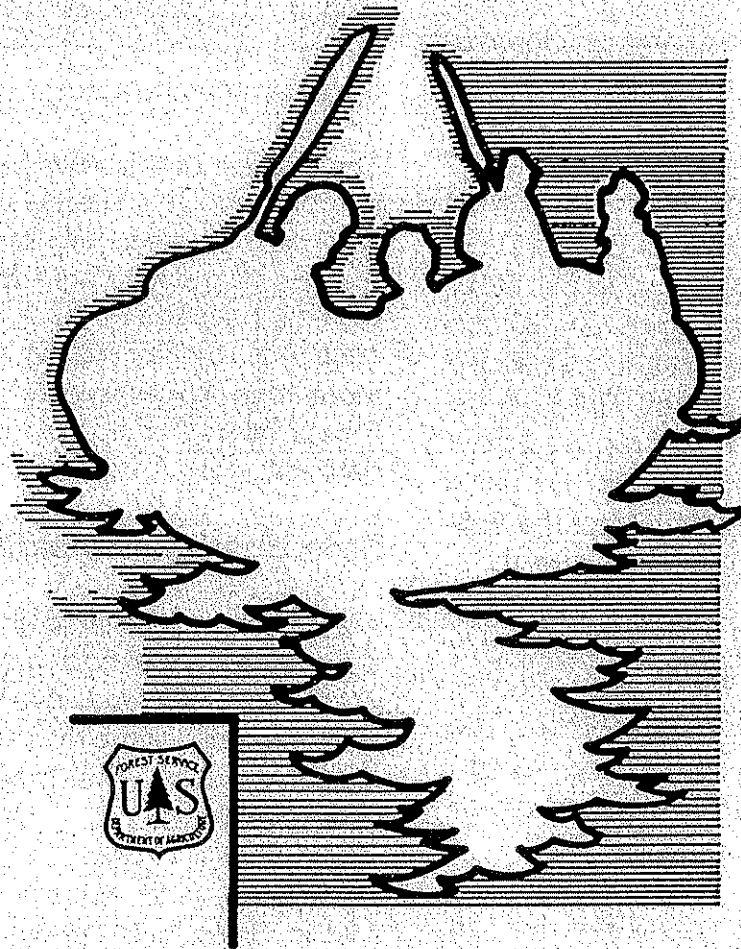


Photo No. 12 - Coleman Canoe, 1991

RECREATION OPPORTUNITY GUIDE

TONTO NATIONAL FOREST

UPPER SALT RIVER



1995



United States  
Department of  
Agriculture

*Prepared by*  
Forest  
Service

Southwestern  
Region

# UPPER SALT RIVER

United States  
Department of Agriculture  
Forest Service

Tonto National Forest  
Globe and Tonto Basin  
Ranger Districts



## Welcome

Since we might not have a chance to meet you during your visit, we would like to take this opportunity to welcome you and to provide you with some information that will give you a better appreciation of this special river.

Beginning in 1995, Visitor's Permits are required by the USDA-Forest Service for a reserved date to enter SALT RIVER CANYON WILDERNESS. The Salt River Canyon Wilderness begins at Gleason Flat (mile 40.2) and goes to just above the Highway 288 Bridge R.A.P. (mile 8.3). Visitor's Permits are required from March 1st through May 15th annually. For information, contact one of the Forest Service offices listed on Page 6.

The Forest Service does not presently require a Visitor's Permit after May 15, nor upstream from the Wilderness. We hope you will value this privilege as you organize your trip so that it is preserved for others to enjoy in the future.

Permits for that portion of the river on the Fort Apache Indian Reservation are also required; usually they may be purchased at the store near the Highway 60 Bridge. For further information contact the White Mountain Fish and Wildlife Department (see Page 6).

If money changes hands for any reason except for sharing of all costs by all participants, a Special-Use Permit may be required. If you have any question concerning this or if you are approached by a "pirate outfitter", contact a local Forest Officer. To avoid being "ripped off", verify that anyone wanting to take you down this river is authorized to do so.

The portion of this river between Gleason Flat and the mouth of Pinal Creek was incorporated into the Salt River Canyon Wilderness on August 28, 1984 with the passage of the Arizona Wilderness Act. Group size is limited to no more than **15** people within this area. Please help us preserve this unique wilderness river!

## Safe Boating Considerations

It is difficult to generalize about this river, since much depends on the time of year, water level, boat involved, and certainly the skills of the river runner. It very definitely is **not** a river meant for beginners or novices!

There are several rapids which can go to a solid Class IV at certain water levels. This river is usually run in small rafts and in kayaks. It is **not** suitable for "rubber duckies", open canoes, etc. It is also generally unsuitable for large rafts (over 15 feet). Motors of any type are prohibited.

There is a particular hazard you must be especially wary of: the old **Diversion Dam** located at Mile 7.2 (below the Hwy 288 bridge). Several drownings have occurred at this dam.

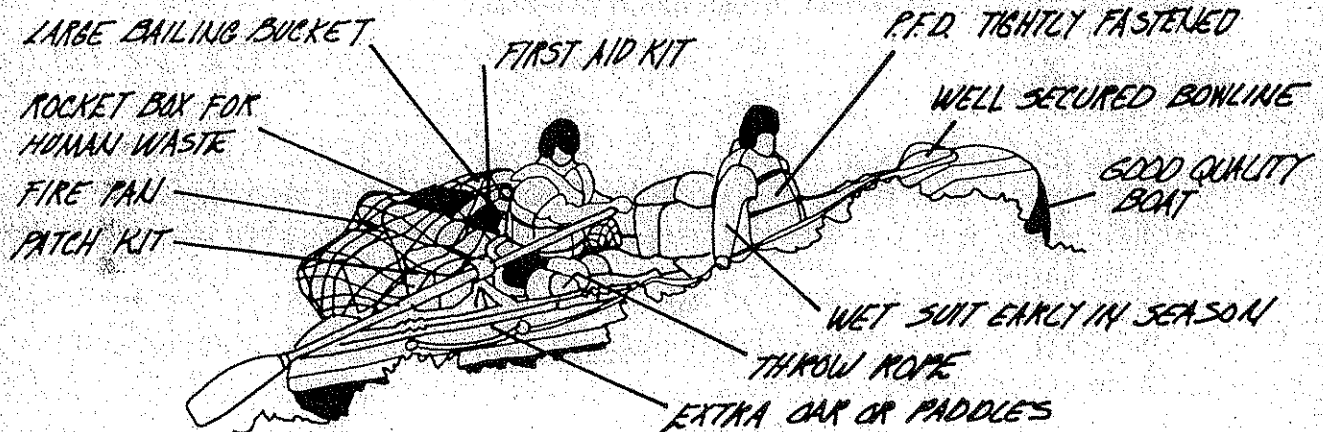
All safety precautions should be taken on the entire river. Your personal flotation device (often incorrectly referred to as a "life vest") should be high quality, and provide flotation equal to at least 10 percent of your body weight. It should be worn *at all times* when on the river. Full or partial wet suits are important safety items early in the season. Kayakers should have rescue lines installed on their boats; rafters should have a good throw rope, and know how to use it.

For information on Safety, we strongly recommend studying a copy of the

A.W.A. Safety Code. If you will enclose a stamped self-addressed business-size envelope, you may obtain a free copy from:

AMERICAN WHITEWATER  
AFFILIATION  
SAFETY CODES  
146 N. BROCKWAY  
PALATINE, ILLINOIS 60067

Responsibility for search and rescue is with the *Gila County Sheriff's Office*. Leave your itinerary with someone who can call them if there is a true emergency. River runners should remember that there will often be *at least* a 24-hour delay in any search operation. In emergency, call (800) 635-8017.

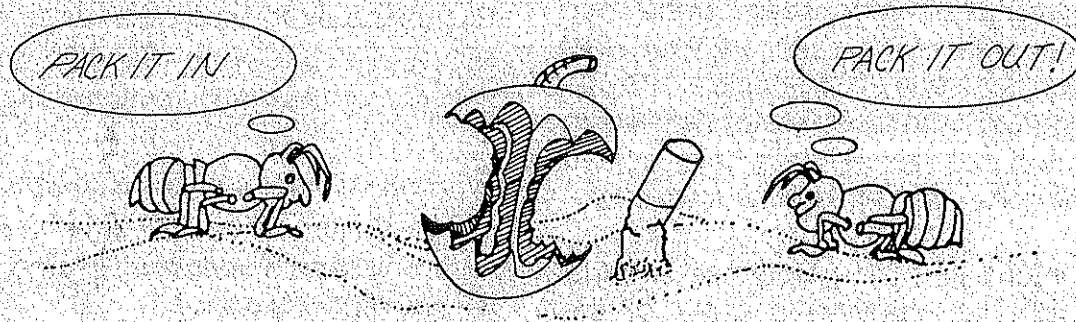


**SAFETY IS NO ACCIDENT**

## A Word To The Wise

The information contained in this guide is for general informational purposes only, and is not meant to be taken as an invitation, nor as a statement of conditions at any one time. All persons intending to run this river are responsible for personally assessing these conditions, as well as their own ability to cope with them. You should be aware that all recreational river use of this type involves a degree of risk, and persons engaging in this activity assume the risk associated therewith.

There are a number of books on the market that can assist you in developing your back-country skills. Do not "bite off more than you can chew", since compassion is not one of this river's attributes.



## Without A Trace

Each year more and more people run this river, and it is beginning to show the effect of this use. We must all learn to use this river wisely, or be faced with more and more restrictions as use and damage increases. These ideas will help:

### Trip Planning

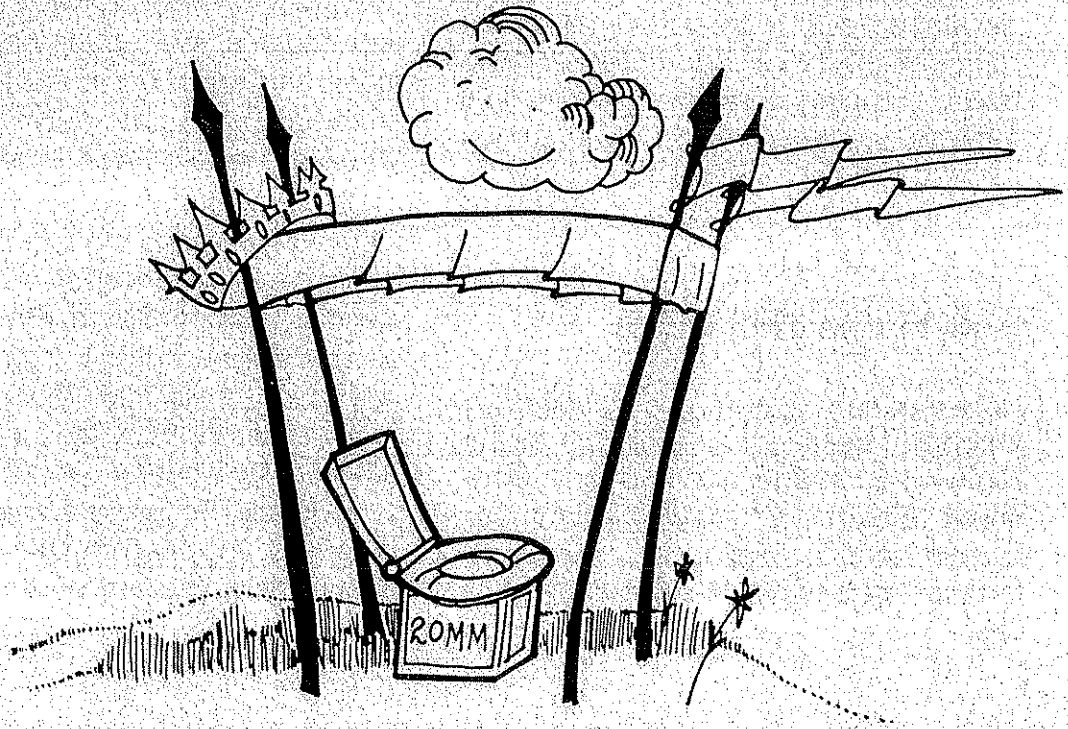
1. Keep your party small.
2. Weekends are by far the busiest time. (Easter weekend is often the worst!)
3. Bring a fire pan if you decide a fire is really needed. **Use of a fire pan or blanket is now mandatory.**
4. Bring sacks to carry out your trash.
5. Bring containers to carry out all human solid waste. **Removal of human solid waste is now mandatory.**

### Setting Up Camp

1. Campsites are relatively plentiful. Do not crowd other groups seeking solitude.
2. Camp at least 300 feet away from springs and side streams.
3. If you need a campfire, use your fire pan. Select a safe spot away from rock ledges that would be blackened by smoke.
4. Use only dead and down wood for any fire. Keep any fire small.
5. Carry out all trash that cannot be completely burned. Aluminum foil and aluminum-lined packages *won't* burn; put them in your trash bag.
6. Cigarette butts, orange peels, etc., are all litter. **PACK IT IN—PACK IT OUT!**

## Sanitation

1. Wash yourself and your dishes in a container away from the river and other water sources. (Biodegradable soap is preferred). Dispose of waste water well away from other water.
2. Many water sources must now be assumed to be contaminated. Bring ample water with you, or plan to treat it.
3. If you are unfamiliar with the use of rocket boxes and plastic bags to carry out human waste, we can provide additional information upon request.



## Trash

1. Keep litter bags handy during the day for empty beverage cans and incidental trash. Everything not totally combustible should be packed out.
2. Never sink cans or bottles in the river.
3. If you smoke, put the butts in your pocket. They don't belong on the ground or in the river.

## Breaking Camp

1. Before leaving your camp or lunch stop, naturalize the area. Replace rocks and wood used, etc., and scatter any ashes in the river.
2. Scout the area to be sure you have left nothing behind. Try to make it appear as if no one had been there.

## Acknowledgements

This river runner's map was developed by the Tonto National Forest, Southwestern Region, Forest Service, USDA. It utilizes the topographic map printed in 1933 by the U.S. Geological Survey. Information concerning rapids, etc., was developed over a period of years from data collected by Dr. John Ricker (who began running this river in the late 1950's) and Pete Weinel (who began running this river in the late 1960's).

## How to Use This Guide

Note that each river mile is indicated by number, beginning with Mile 60 at the Highway 60 bridge, and ending at Roosevelt Reservoir. Allowing time for breaks, scouting rapids, etc., rafters often plan on a two-mile per hour schedule.

Some (but not all) rapids are named and described, but they are not rated. This is due to inherent problems with rating systems, and because the rapids change radically with changes in water level. When in doubt, scout!

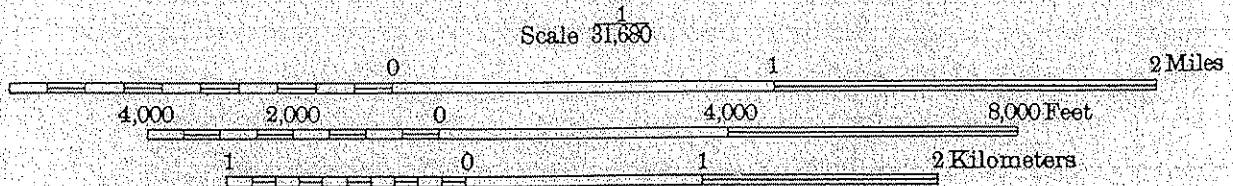
References to "Low water" generally means below 750 cfs. References to "high water" generally mean 4,000 cfs and above. There are two stream gauging stations, the upper one near Mile 60.2, and the lower one near Mile 8.2. Information on flow may be obtained through the Salt River Project.

One way to make the use of this guide easier is to water-proof it, for example painting it with "Storm Proof" which is available from outdoor stores. As with any guide, it will only be of use if it is, in fact, in use. It will do little good if packed safely away where it cannot be referred to regularly. To avoid some very nasty surprises, you should make it a policy to know where you are on the river at all times.

*"No servant brought them meals .... No traffic cop whistled them off the hidden rock in the next rapids. No friendly roof kept them dry when they misguessed whether or not to pitch the tent. No guide showed them which camping spots offered a nightlong breeze and which nightlong misery of mosquitoes; which firewood made clear coals and which would only smoke. The elemental simplicities of wilderness travel were thrills .... because they represented complete freedom to make mistakes. The wilderness gave .... those rewards and penalties for wise and foolish acts .... against which civilization has built a thousand buffers."*

*Aldo Leopold (1887-1948)*

# SCALE OF RIVER GUIDE



Contour intervals on land 20 and 25 feet changing at mile 8  
Contour interval on river surface 5 feet  
Datum is mean sea level



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## ADDITIONAL INFORMATION

For additional information contact:

Tonto National Forest  
2324 E. McDowell Rd.  
Phoenix, AZ 85006  
Phone (602) 225-5200

Globe Ranger District  
Rt. 1, Box 33  
Globe, AZ 85501  
Phone (520) 402-6200

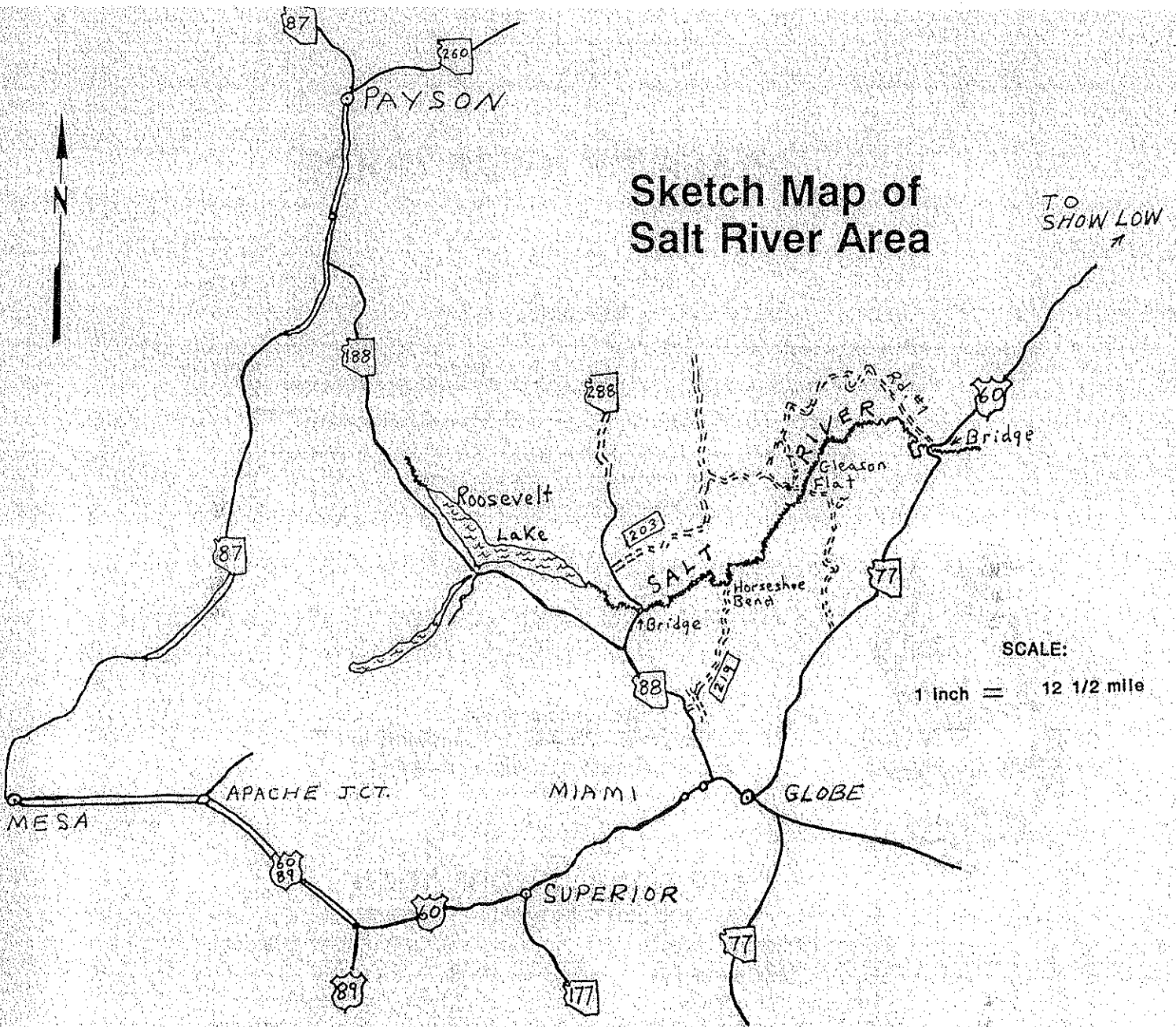
For information concerning the required Indian Reservation Permit:

White Mtn. Game and Fish Dept.  
P.O. Box 220  
White River, AZ 85941  
Phone (520) 338-4385

*For flow information:*

Salt River Project  
Phone (602) 236-5929  
(recording updated every 24 hours)





### RIVER ACCESS POINTS (R.A.P.'s)

**Mile 59.8 Highway 60 Bridge R.A.P.:** It is possible to launch on either the north or the south side of the river, however both require running Island Rapid which is best avoided by rafters at moderate and low water levels. To launch on the south bank (San Carlos Apache Reservation), turn upstream onto the narrow road about 50 yards south of the bridge. This road drops steeply to a parking area near the river. To launch on the north bank (Fort Apache Reservation), turn left (downstream) on the road about 100 yards north of the bridge. After about 50 yards, turn left on narrow road which turns upstream and goes under the bridge to a launching point just upstream. Don't forget your Reservation river-running permit.

**Mile 59.3 Campground NUMBER ONE (Mule Hoof) R.A.P.:** A very popular launching spot which avoids Island Rapid. Turn left (downstream) on the road which leaves highway about 100 yards north of the bridge. The primitive campground is on a short side road about 1/4 mile off the highway.

## RIVER ACCESS POINTS (R.A.P.'s) (Cont.)

Mile 54.0 **Campground NUMBER TWO (Exhibition) R.A.P.:** This fairly large campground is reached via the same road (Road #1) as the Campground Number One. From the highway turn-off, the entrance road is 3.3 miles. River-running permits also authorize camping on the Fort Apache Reservation.

Mile 53.1 **Cibecue Creek R.A.P.:** Reached via the same road as the above two R.A.P.'s. Sedans can often reach this point if care is taken. Do not ford Cibecue Creek if water is high.

Mile 50.6 **Sandy Beach:** The river can be accessed via a short side canyon at this location.

Mile 49.6 **Salt Banks R.A.P.:** A side-road from the above described Road #1. The turn-off is 7.6 miles from the highway. Requires *at least* a high-clearance vehicle. Last R.A.P. until Gleason Flat.

Mile 41.3 **Upper Gleason Flat R.A.P. – Forest Side:** The same directions (for 4WD's) as the Gleason Flat R.A.P., except continue upstream after reaching bottom of the hill.

Mile 40.3 **Gleason Flat R.A.P. – Forest Side:** Take Highway 60 from Globe for approximately 16 miles. Turn left onto Road #303 (opposite the Jones Water Campground). Follow this road for approximately 13.5 miles, then turn left to 4WD Road #303A, and left again onto 4WD Road #303B for about 4 miles to the river.

Mile 40.1 **Gleason Flat R.A.P. – Reservation Side (from up-river):** Turn left (downstream) on the road which leaves the highway about 100 yards north of the Highway 60 Bridge. Continue on this road (Road #1) for 19.4 miles to Road #4. Turn left on this 4WD road for 4.1 miles. Turn right for 0.2 miles, then turn left. The river is approximately 0.1 miles ahead.

Mile 40.1 **Gleason Flat R.A.P. – Reservation Side (from down-river):** From State Highway 288, turn right on the Cherry Creek Road #203. Continue on this road for 14.9 miles to Road #96. Turn right on the 4WD road for 3.3 miles to the National Forest boundary. Continue ahead on Reservation Road #1 for 2.2 miles to Road #3. Turn right for 3.9 miles. At this point, bear right for approximately 0.5 miles to the river (still 4WD).

Mile 21.0 **Horseshoe Bend R.A.P.:** From the junction of Hwy. US 60 and AZ 88 (between Miami and Globe), drive west on AZ 88 for about 6.3 miles (Milepost 267). Turn right and cross the Pinal Creek Bridge. Continue on Hicks Drive for 2 miles to a white metal gate on the right (gate has a sign saying "Horseshoe Bend Closed - Private Property"). Forest Road #219 begins here. High-clearance 2WD's may be o.k., except after floods, etc. Vehicle access to the river is blocked by private land; access to the river is now via the Hicks Trail which begins just before reaching the locked gate. Trail is 0.1 mile long, steep with unstable footing, and not suitable for carrying heavy gear (unless you like that kind of thing), and the current is very swift at this point.

Mile 8.1 **HWY 288 BRIDGE R.A.P.:** A new facility provides excellent access to the river, with a parking lot about 1/8 mile away (do not leave your vehicle in the staging area). From the junction of Hwy. US 60 and AZ 88 (between Miami and Globe), drive west on AZ 88 for about 14.6 miles. Bear right on AZ 288 and drive approximately 3.8 miles to the R.A.P. parking lot turn-off (sign on highway says "Upper Salt River Recreation Site"); turn left to parking lot which is 0.1 mile away. To reach the staging area/ramp, pass this turn-off for another 0.3 miles, and then turn left.

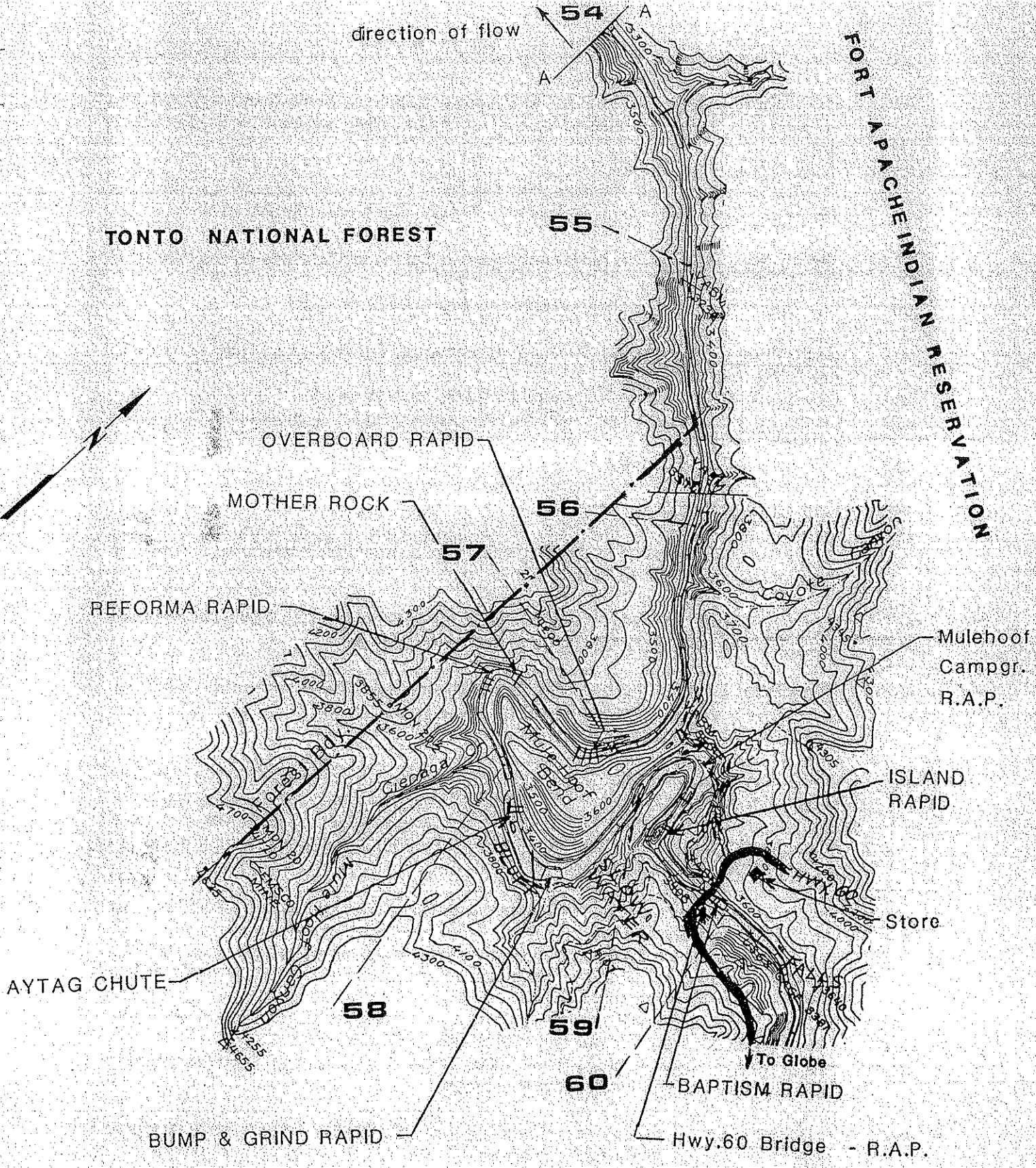
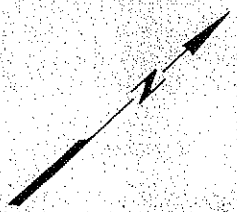
## ITEMS OF INTEREST

- 59.9 **Baptism Rapid:** Usually too rocky at low water. Some nasty holes at higher water. Can be accessed from right or left side of river - see River R.A.P. descriptions. (Named for what happens if you underestimate this one.)
- 59.8 Highway 60 Bridges: the original bridge was constructed in 1934. Downstream is the Dripping Springs Quartzite at river level.
- 59.5 **Island Rapid:** Nasty rocks to hang-up on in both channels; best to start below this rapid except at higher water. There is also the "African Queen Sneak Route" going far left at Mile 59.6. Drowning here in 1973.
- 59.3 Mule Hoof R.A.P.: located in Campground #1; this can be a very crowded place on busy days. See Page 8 for access directions. River will drop 28 ft. per mile for next 9 miles.
- 59.2 The Mule Hoof monocline is exposed on the north wall of the canyon. The course of the river is controlled by the resistance of the rocks over which it flows. Here the folding of the Dripping Springs Quartzite has forced the river to make two sharp turns as it enters and leaves the monocline.
- 59.0 Mule Hoof Bend is an entrenched meander loop. An ancestral meander has become entrenched and 250-foot high cliffs dominate on the right at the neck of the meander loop.
- 58.5 An asbestos mine is seen on the left, high above the river. In years past, this region produced some of the world's finest chrysotile asbestos.
- 58.4 **Bump and Grind Rapid:** The upper easy part of this rapid conceals a rocky ledge across the entire lower end. Rafts may be lined at low water. (Named for a famous dance river-runners once knew, and for what happens at lower water.)
- 58.2 **Maytag Chute:** Main part of river goes straight -- to left of small island, but preferred route is *far* right to the right of the island (which can be used for scouting). Tricky Currents!
- 57.9 Cienaga Creek -- "Cienaga" is a Spanish word for meadow.
- 57.6 **Reforma Rapid:** (Scouting recommended.) Some deep and sneaky holes (rocks) in this one. At higher water, they can be mean! Drowning here in 1986. (Named for a ski run at Taos, and for what can occur here.)
- 57.5 **Mother Rock:** Major rock in center of river. No problem if you stay right. There is a diabase-sill cliff capped with Mescal limestone to the left. Below Mother Rock is a long rock garden. Work your way to its *far* right side to enter Overboard Rapid.
- 57.2 **Overboard Rapid:** Difficult to scout. Enter far right, but then pull away from the right side; there is a very large rock (or hole) at lower end on right. (Named for what commonly happens here.)
- 56.2 Coyote Canyon -- For many years, it was felt the only good coyote was a dead one. Despite this and the bounty that was on it, the coyote managed to escape the fate of other predators; today its song is a welcome addition to a back country trip.
- 55.6 Entering the **Tonto National Forest** on river left. For the next 24 miles, the middle of the river is the boundary between the National Forest and the Fort Apache Indian Reservation. Originally established as the Crook Forest Reserve, this area was set aside by President Theodore Roosevelt in 1908.
- 54.0 Exhibition R.A.P.: See Page 8. Within Campground #2.

TONTO NATIONAL FOREST

FORT APACHE INDIAN RESERVATION

direction of flow



54

55

56

57

58

59

60

OVERBOARD RAPID

MOTHER ROCK

REFORMA RAPID

AYTAG CHUTE

BUMP & GRIND RAPID

Mulehoof  
Campgr.  
R.A.P.

ISLAND  
RAPID

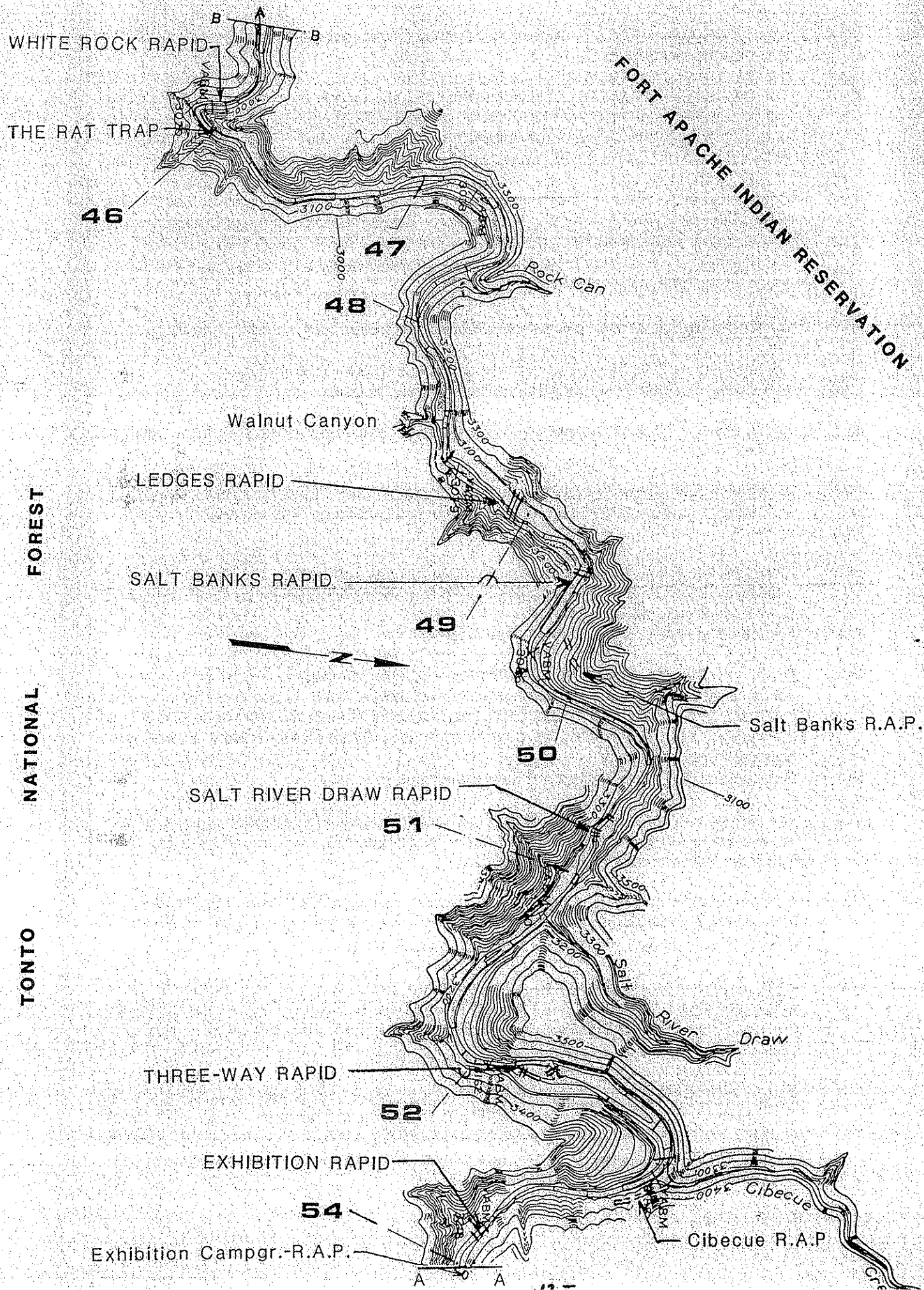
Store

BAPTISM RAPID

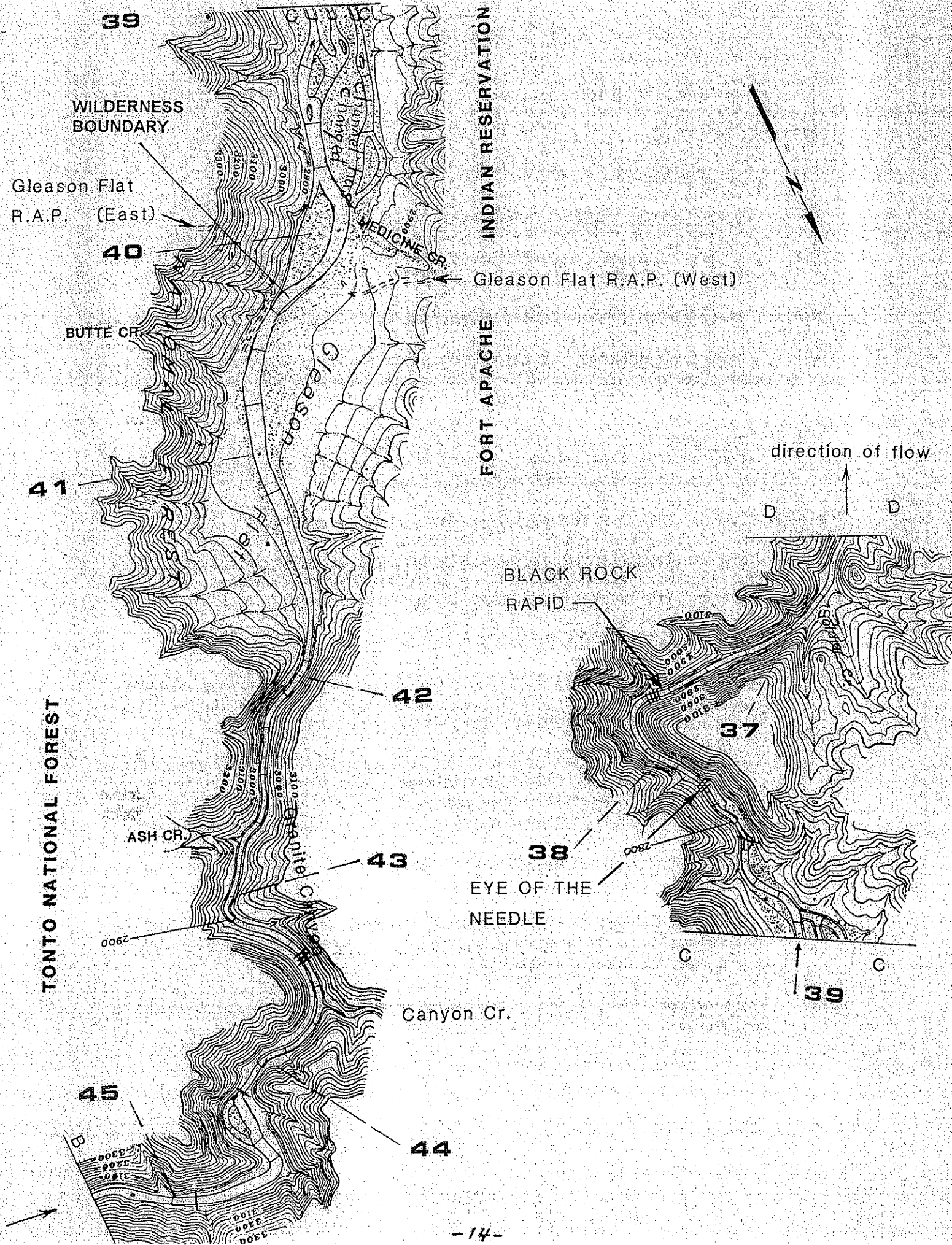
Hwy.60 Bridge - R.A.P.

To Globe

- 53.9 Forked Tongue Canyon — A short hike up the canyon takes you to Forked Tongue Falls.
- 53.9 **Exhibition Rapid:** Broad at the top, narrows at bottom. Some good haystacks with occasional hidden holes. (Named for a ski run in Sun Valley, and for what you can put on here.)
- 53.1 Cibecue R.A.P.: See Page 8.
- 53.0 Cibecue Creek is a major tributary of the Salt River. On river left, there are several stream terraces at varying elevations. In Apache, Cibecue means, "reddish bottom land".
- 52.2 **Three-Way Rapid:** One run is straight ahead, but the middle chute (take a hard right) can provide a good ride.
- 51.4 Salt River Draw — Start getting prepared for Salt River Draw Rapid.
- 50.8 **Salt River Draw Rapid:** (Scouting recommended from left bank.) Hairy at all levels. Stay away from the left side.
- 50.5 Elevation is 3,100 feet. The river drops 26 ft./mile for next 4 miles.
- 49.7 On the left is an "inflation" fault. Such inflation faults are extremely important in forming this region's geology.
- 49.6 Salt Banks R.A.P.: See Page 8.
- 49.4 **Salt Banks Rapid:** A good ride.
- 49.3 The river was named for these salt banks. Large amounts of dissolved solids (mostly sodium) are being added to the river every day at this point. Historically this was an important source of salt for Indians in this region.
- 48.9 **Ledges Rapid:** A series of drops created by the resistant Dripping Spring Quartzite. Big rocks (or holes) can be hidden in the waves on the left side.
- 48.3 **Little Boat Eater:** A "keeper" is located at the very bottom of the rapid which is immediately above the quiet water at Walnut Falls. It is very close to the left bank, and gets more troublesome at lower water.
- 48.4 Walnut Falls enters the river at a picturesque alcove. This canyon affords an excellent exposure of systematic jointing in the Dripping Spring Quartzite, as well as hiking opportunities. The Tomato Juice Mine was located in this canyon not far from the river. It is one of numerous uranium deposits that were developed in the 1950's. **Camping is not allowed within 100 yards of Walnut Falls.**
- 48.0 The first saguaro cacti are found along the river. These cacti can live for several hundred years, and weigh several tons.  
The Rock Canyon monocline is a magnificent fold at least 5 miles in length and a minimum of 300 feet in structural relief. The unique aspect of this fold is that both its anticlinal and synclinal hinge zones are fully exposed.
- 47.5 Rock Canyon — A small cliff dwelling is located at the base of the high bluff just downstream.
- 46.6 Elevation is 3,000 feet. The river drops 29 ft./mile for next 3½ miles.
- 46.2 This is the first exposure of the Ruin Granite in the canyon. Moving down-river towards Canyon Creek, a major unconformity is crossed.
- 46.0 **The Rat Trap:** At lower water, a sharp drop with buried rocks and turbulence. At higher water, a sneak route to the right is available.
- 45.8 **White Rock Rapid:** This long rapid begins just around a sharp right-hand turn. Usually a good ride, but it can be intense at high water. The river is entering a gorge of gleaming white precambrian Ruin Granite that is over 1,400,000,000 years old.



- 45.5 Granite Canyon – The river moves quickly through this stretch, and there are several ways to get into trouble.
- 42.0
- 44.5 The Canyon Creek Fault Zone (fully 60 miles long) stands out as one of the major scars in the physiography of the State of Arizona. It is estimated that faulting resulted in downdropping of the west block by (approximately) an amazing 5,000 feet. On river left, the effects of faulting can be seen in the highly fractured, sheared, and locally brecciated Ruin Granite.
- 43.7 Canyon Creek – Hard to land, unless you stop upstream of the confluence. Good pools, some with \*Verde Trout\*, a type of native sucker. Canyon Creek is a major drainage which begins many miles away as a trout stream just under the Mogollon Rim. An aboriginal turquoise quarry near the mouth of this drainage was visited by Dr. Emil Haury in 1930 as a part of his archeological survey that year.
- 43.4 **Granite Rapid:** A rock splits the river. Both sides can be tough, and there's no place to stop.
- 43.1 The elevation is 2,900 feet. The river will drop 21 ft./mile for next 5 miles.
- 42.8 Ash Creek – Water here sometimes; also a swimming hole.
- 42.1 Pete's Pond – Slow water, with a couple of small campsites before joining the cattle at Gleason Flat.
- 41.8 At Gleason Flat, the wide expanse of low topographic relief in this area reflects a large exposure of nonresistant tertiary conglomerate and sandstone. It is often windy here.
- 38.5
- 41.0 Along the left shore, an old homestead of 60 acres was acquired by the Forest Service in 1986 through land exchange. This will assure this property will never be closed to the public or inappropriately developed.
- 40.2 Gleason Flat R.A.P. – Forest Side (See Page 8).
- 40.2 On the left side is the beginning of the ***Salt River Canyon Wilderness***. This special area was set aside by Congress in 1984 to (among other objectives) retain its primeval character and influence, as well as providing outstanding opportunities for solitude. From here to Mile 31.1 the middle of the river serves the dual function as a Wilderness boundary as well as a National Forest boundary.
- 40.1 Gleason Flat R.A.P. – Reservation Side (See Page 8).
- 38.5 The Redmond Formation is found below the cover of the tertiary sedimentary rocks where the wide valley ends. The Redmond Formation is considered to be a precambrian ash flow, with a thickness of approximately 7,000 feet.
- 38.3 If you have not run EYE OF THE NEEDLE before, you may stop here on the left to scout it before the river picks up speed and you are unable to stop. Just down-river, the elevation is 2,800 feet. The river will drop 24 ft./mile for next 8 miles.
- 38.2 **Eye of the Needle:** (Scouting recommended.) This one sneaks up on you. At lower water, a very narrow passage (with a sizeable drop) between rocks – run left. At high water, a reversal can be created across most of the river, and far right is preferred – look over carefully. (Named for its biblical reference.)
- 37.6 **Black Rock Rapid:** (Scouting recommended.) This is a significant rapid at the end of a right-hand turn; it requires *close* attention. There is an impressive drop, and tricky currents. At higher water, it can be run (or lined) through the left channel. At low water, a difficult waterfall is formed. (Named for the movie – don't let it be a bad day here for you – and for the color of the rock here.)
- 36.8 Soldier Creek.

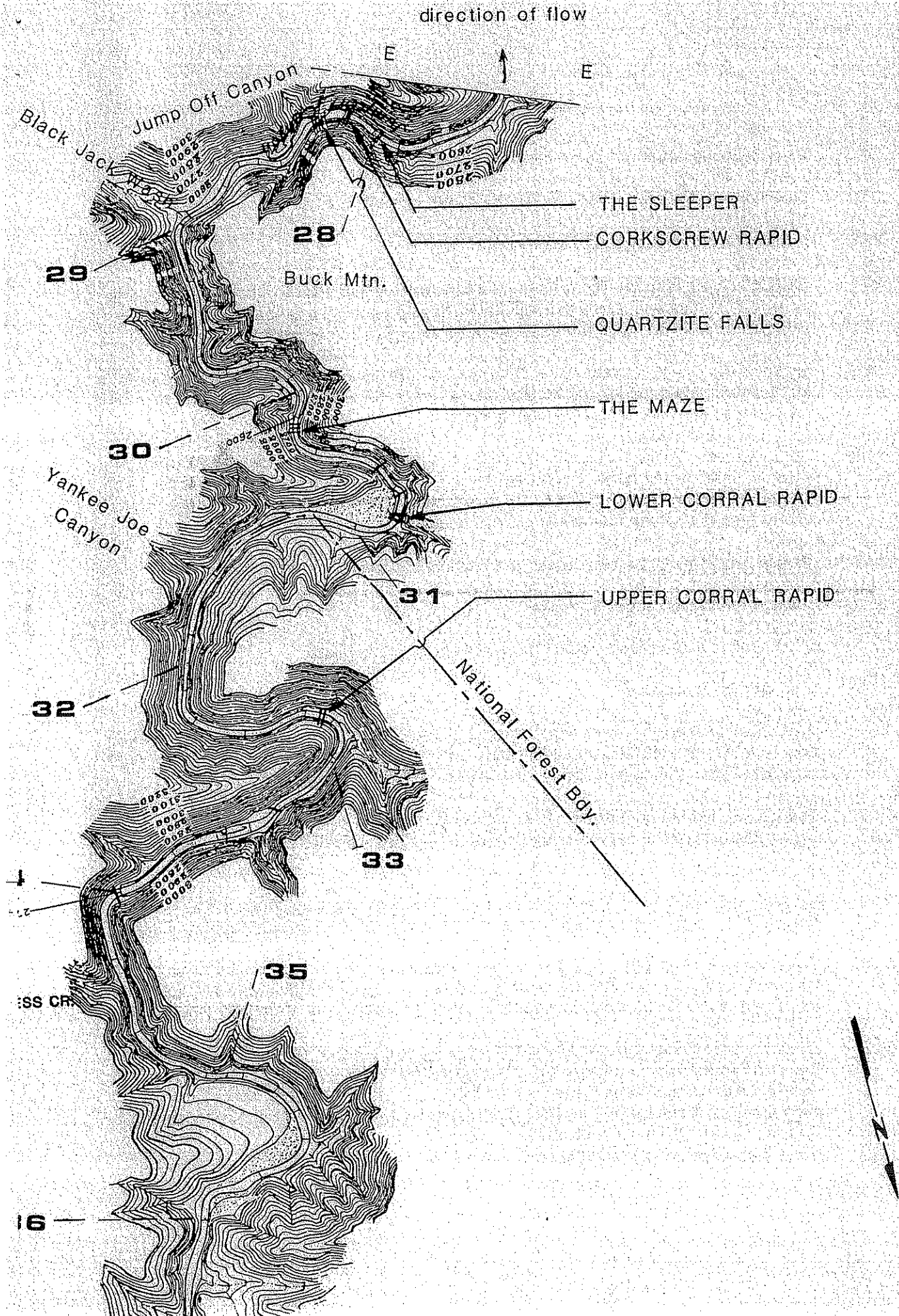




- 36.2 Hackberry Spring Wash
- 34.3 Hess Canyon
- 33.2 **Pendejo Curve:** Stay off the left wall. Tougher at low water.
- 32.7 **Upper Corral Rapid:** Current goes into rocks, lower right side.
- 31.6 Yankee Joe Canyon – Named for Joseph Yankie who operated several mining claims in this area in the 1870's.
- 31.2 Total river is now within the ***Tonto National Forest*** and the ***Salt River Canyon Wilderness***.
- 30.9 **Lower Corral Rapid:** This is a good place to regroup for what's ahead. This long rapid begins just around a sharp left-hand turn; you are now jumping off down into Jump Off Canyon. There are some sneaky "pinball" possibilities to be avoided for the next mile.
- 30.2 **The Maze:** (Scouting recommended.) Starts just around sharp right-hand turn. Several large rocks block the river; they become knarly holes at higher water. Current will take you left, but one route is extreme far right against the wall.
- 30.1 Elevation is 2,600 feet. The river will drop 31 ft./mile for next 3 miles.
- 29.4 The entire White Ledges Formation is visible here; it is marked by spectacularly resistant physiographic expression. Ripple marks and other primary sedimentary structures are abundant on the bedding planes, especially opposite the mouth of Black Jack Wash.
- 29.0 Black Jack Wash – One of the last campsites for the next couple of miles.
- 28.3 **Quartzite Rapid (Falls):** This was once an awesome rapid, with many a tale told by those who encountered it. A drowning occurred here in 1969 and two occurred in 1993. In the fall of 1993, the lower drop was destroyed by high explosives.
- After an intensive investigation by the Forest Service and BATF, it was determined that a group of eight persons had carried out this shameful destruction; the two ringleaders were William Kenneth Stoner (a former river-guide) and Richard Merrick Scott (both of Phoenix, AZ). Please pause for a moment to mourn the loss of this irreplaceable natural feature.
- The upper drop remains a challenge, and scouting is recommended.
- 28.2 **Corkscrew Chute:** (Scouting recommended.) Below Quartzite, there is a pool, and sometimes an island. *Corkscrew* begins at the pool's lower end. At some water levels, this one behaves like a Grand Canyon rapid.
- 28.0 **The Sleeper:** There is a sneaky hole near the beginning of a nice long ride. Stay left away from the hole.

TONTO NATIONAL FOREST

SALT RIVER CANYON WILDERNESS



direction of flow

E E

Black Jack  
Jump Off Canyon

THE SLEEPER  
CORKSCREW RAPID  
QUARTZITE FALLS

28

Buck Mtn.

THE MAZE

LOWER CORRAL RAPID

UPPER CORRAL RAPID

National Forest Bdy.

30

31

33

35

29

32

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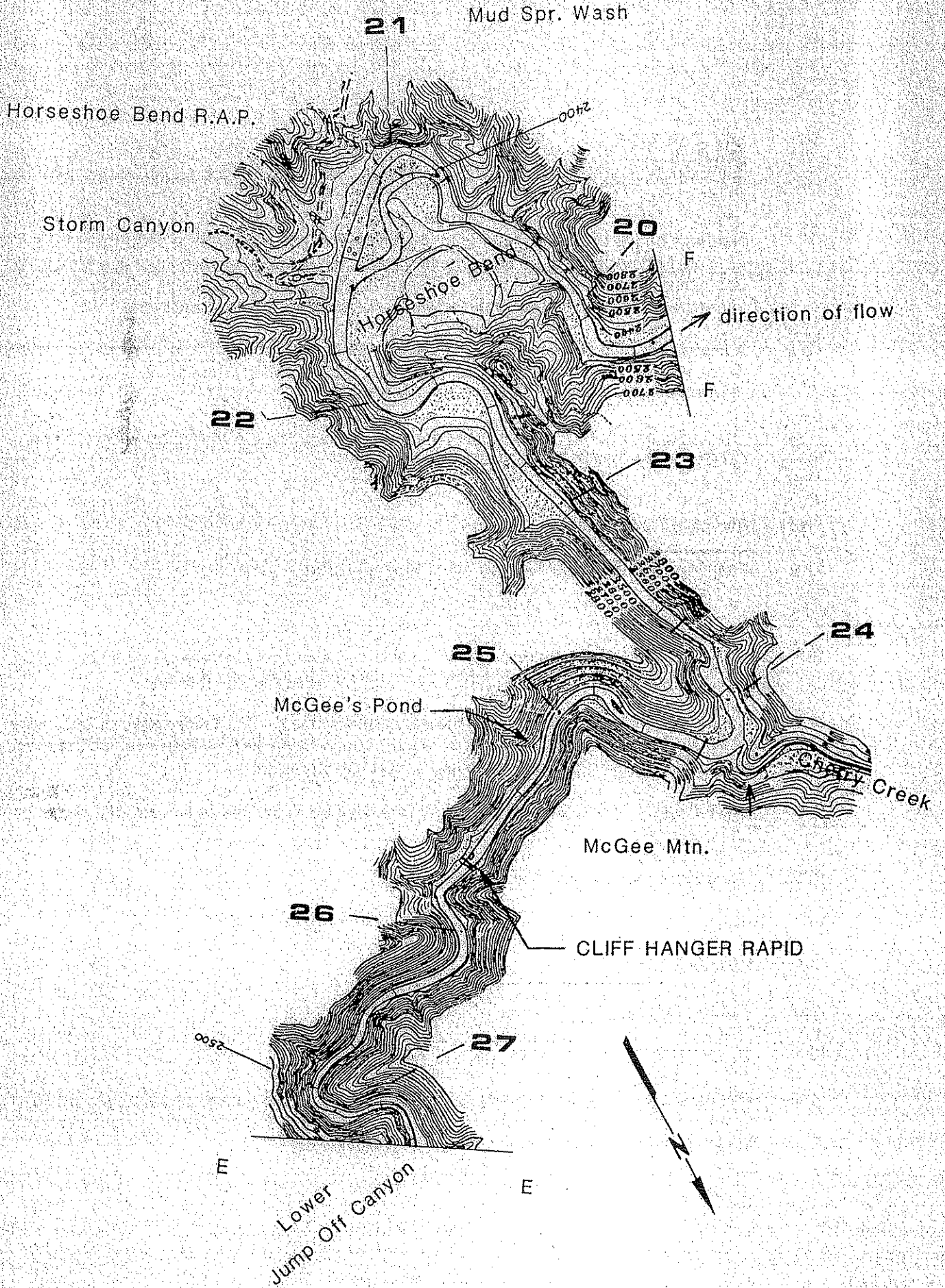
16

Yankee Joe  
Canyon

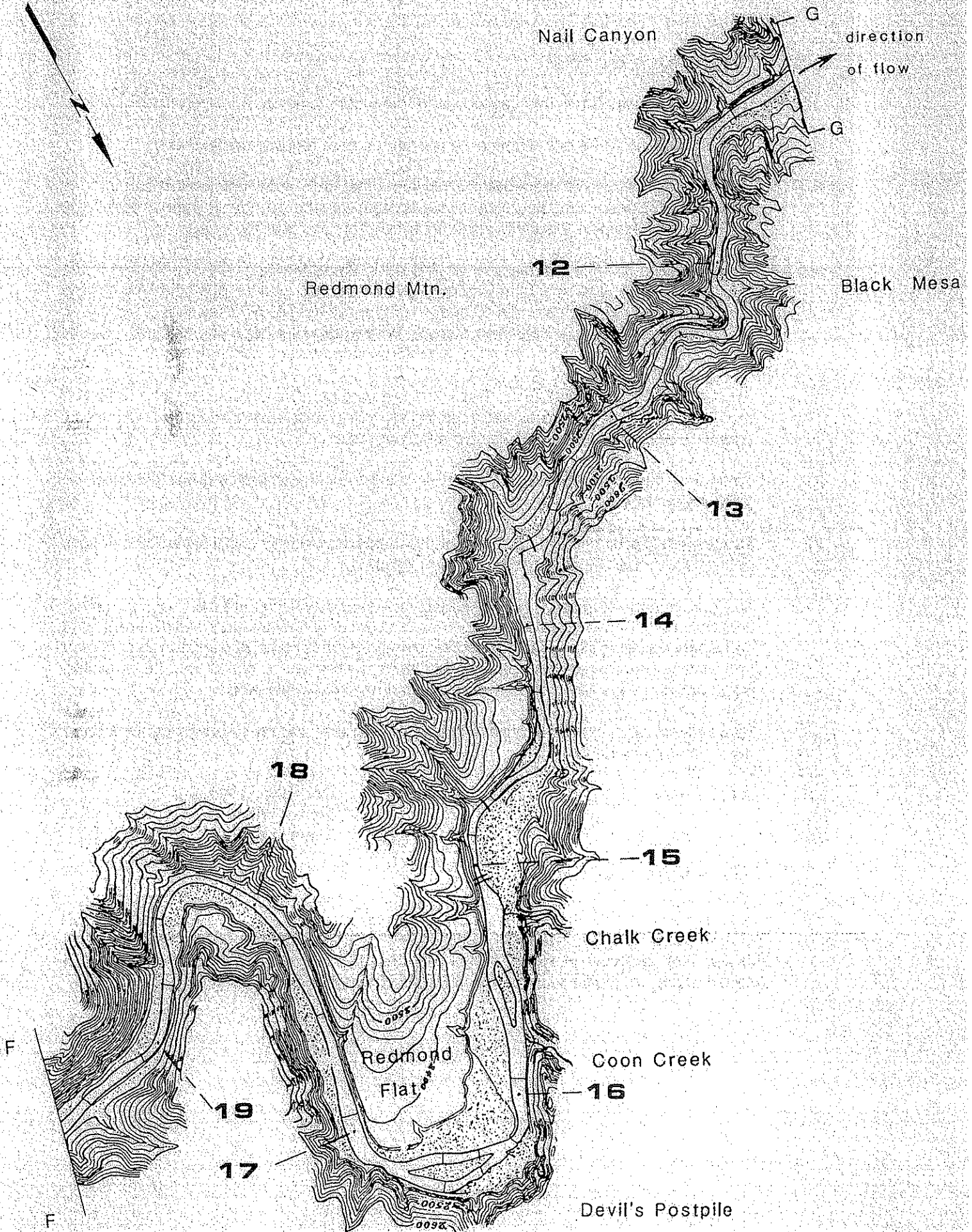
MISS CR.

- 27.0 River continues through Lower Jump Off Canyon.
- 26.9 Elevation is 2,500 feet. River will drop 16 ft./mile for next 6 miles.
- 26.6 A major fault that shows significant offset.
- 25.7 **Cliff Hanger Rapid:** The main current runs directly into a bluff with a large eddy pool to the left. Rafters should run this with care. (Named because it is sometimes a mystery if a raft will ever come out of the eddy pool and for what you can do if you flip.)
- 25.1 McGee's Pond – Slow water. Otter still live in the Salt River, and are sometimes glimpsed. McGee Mountain is to the right. McGee was a prospector who had a mine in this area that he said was originally an old Mexican location.
- 24.2 Cherry Creek – A major tributary of the river, this creek begins just under the Mogollon Rim some 50 miles to the north. The stone structure located a short distance up stream was reportedly built by a trapper during the depression. The creek is named for a type of wild cherry (genus Prunus) that occurs near its headwaters.
- 23.7 **Wake Up Rapid:** At lower water, the channel is far right along the bluff.
- 22.9 Reenter the White Ledges Formation.
- 22.1 On the left is a spectacular fold in the White Ledges Formation.
- 22.0 Ruin Granite is exposed.
- 21.7 At Horseshoe Bend, the river meanders through Redmond Formation, White Ledges Formation, Ruin Granite, and tertiary sedimentary and volcanic rocks. At low water, the far right channel is often the best (unless you are taking out on the Hicks Trail).
- 21.7 There is a patented homestead of 42.7 acres along the left side of the river. The present owner has blocked off the road that passes through it to the river.
- 21.0
- 21.0+ Horseshoe Bend R.A.P. – The Hicks Trail (steep with poor footing) drops off a ridge to a branch of the river. This trail has been adopted by the Central Arizona Paddlers Club.
- 21.0 The channel is filled with a rhyolite flow. Just downstream from Mud Springs Wash on the left is a conspicuous bluff that displays a prominent channel filled with a volcanic agglomerate. The channel is cut into a sequence of tuff and rhyolite flows of undetermined age.
- 20.8 Elevation is 2,400 feet. River will drop 16 ft./mile for next 6 miles. You are now well into the Sonoran Desert/shrub vegetative type. This large, arid region is centered at the head of the Gulf of California and takes in the western half of the State of Sonora, Mexico, as well as large areas of southeastern California, southwestern Arizona, and the Baja California peninsula. In this part of it, the many succulents, the truly large cacti, and the many tree species make it truly spectacular and the least "desert-like" desert/shrub in North America.

SALT RIVER CANYON WILDERNESS



- 18.6 **No Stop Zone:** No landing or stopping is allowed for the next 1.3 miles from December 1st through June 30th each year. Even though the reaction of the eagles in this area to a single group might not seem significant, the impact accumulates with each succeeding group. To date, this nest has been successful for 8 of the past 13 years. While many Northern Bald Eagles will nest and forage on lakes and reservoirs, the endangered Southern Bald Eagle subspecies prefer rivers and streams. Bald Eagles do not get their characteristic white heads and tails until they mature at an age of about 3 years. Hopefully we will see more of them in the years ahead as the breeding population recovers.
- 18.3 A castle-like volcanic neck and two dikes are exposed on the left. The white-to-gray dikes are composed of rhyolite and intrude the Redmond Formation. The neck itself is composed of rhyolite fragments in a yellowish-tan felsic matrix.
- 17.4 The last outcrop of the Redmond Formation is at river level. A thick sequence of tertiary  
to conglomerate, basalt, and rhyolite is exposed.  
13.0
- 17.3 End of NO STOP ZONE.
- 17.2 The river makes a large "U", and forms Redmond Flat.  
to  
15.5
- 16.3 The Devil's Postpile — This outcrop of basalt is a magnificent example of columnar jointing. The basalt rests on rhyolite, which in turn overlies tertiary conglomerate.
- 15.8 Coon Creek — Another significant tributary entering the river in a nice grove of Sycamore trees. Raccoons are common in this region, and their tracks are often seen in the mud. Fishermen sometimes hike into this spot, and leave a mess.
- 15.2 Chalk Creek — This can be a rewarding hike. Named for soft white limestone that can be found along it.
- 15.0 Black Mesa looms above the river on the right.
- 14.7 Elevation is 2,300 feet. River will drop 17 ft./mile for next 6 miles.
- 14.2 Redmond Wash.
- 13.0 Passing through Ruin Granite.  
to  
11.4
- 11.4 Nail Canyon — A major basin and range fault crosses the river along a northwest trend. Nail Creek lies on the fault zone to the south. It strikes along the base of Black Mesa to the north forming a fault-line scarp on the west end of the mesa.



- 10.3 Entering the Goose Necks.
- 9.4 The Apache Leap Tuff is intercalated with tertiary conglomerate from here to the bridge.
- 8.9 The elevation is 2,200 feet. Summer temperatures here regularly exceed 100°.
- 8.4 An excellent example of "slickenside" shale and other fault-plane features are on the right; a major fault places conglomerates in fault contact with the younger rhyolite. A short hike is required to examine this fault, which is hidden from the river by a ridge.
- 8.3 Pinal Creek – A major tributary that begins in the Pinal Mountains south of Globe. In the past, this creek has been contaminated by waste from copper mining; stains on the rocks can still be seen. This stream was named in 1864 by the King S. Woolsey expedition. At this point, you are leaving the **Salt River Canyon Wilderness**. We hope you enjoyed a quality wilderness experience, away from the crowded hustle-bustle of the modern-day world.
- 8.1 Highway 288 Bridge R.A.P.: This is the last take-out. Don't block the ramp while you are unloading. Please help us keep this facility in top shape by picking up trash left by others. A good trail leads 1/8 mile to the parking area.
- 7.8 Tertiary conglomerate reappears; these rocks are the conglomerates down faulted at the "slickenside" fault.
- 7.2 **Diversion Dam:** Do NOT approach this low-head dam, since it is still hazardous. Access to the river at the former R.A.P. is also now blocked.
- This dam and the 19-mile long power canal that it served were important components in the construction of Roosevelt Dam, built by the U.S. Bureau of Reclamation. The diversion dam and power canal took 2 ½ years to build, requiring hundreds of workers and teams of horses and mules. The project was completed in 1906, and played a critical role by providing hydroelectric power essential in the construction of Roosevelt Dam.
- 6.5 Hackberry Wash – There is private land bordering the river on its right side for a short distance along here.
- |     |                |     |                  |
|-----|----------------|-----|------------------|
| 5.8 | Meddler Point. | 3.1 | Cottonwood Acres |
| to  |                | 2.9 | Medler Wash      |
| 3.5 |                | 2.0 | Fontana Wash     |
- 5.3 Poison Springs Wash.
- 4.7 Worley Wash.
- 0.0 This zero point is at the 2,120 feet elevation, which is the elevation of the Roosevelt Dam spillway. The lake can go 16 feet higher than this, but can also be many feet lower. It is approximately an additional 2 miles to the Schoolhouse Point Recreation Site.

