Draft
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I will have a chance to add data to the revision (final form) to be formally submitted in about a month. Anything you can add will be helpful. By reading this and Stan Cave Country you can get an idea of the type of data necessary. Ongoing studies will be welcome but will have to go with what we have - sooner.

RES

REPORT OF FIELD INVESTIGATION

CAVES BELOW GROSS POOL

NEW MELONES LAKE, CALIFORNIA

Submitted by Ralph E. Squire

Objectives: To locate and describe the extent of at least nine caves reported by rafters to exist in the Stanislaus River Canyon, in addition to gathering further information concerning four known caves as reported by the National Speleological Society's New Melones Task Force (NSS_NMTF).

Methods of investigation: On March 23-25, 1975, I traversed the Stanislaus River Canyon from Camp Nine to the Parrott's Ferry Bridge, utilizing the services of Mark Dubois, River Runner, Social Worker and Student Anthropologist, Vallecito, California. Other members of the expedition on the raft were: David R. Squire, President, Stanislaus Speleological Association, Hughson, California, Jared P. Squire, Student, Hughson, California, and Russell J. Pennell, Environmentalist and Geology Student, Berkeley, California.

In addition to topographic and geologic maps, we utilized a hand held barometric altimeter, a brunton compass, and a complete compliment of specialised caving equipment. Reference was also made to the January 1975 issue of California Geology, "The Stanislaus River - A Study in Sierra Nevada Geology", Wright, William H. III.

Caves studied were primarily those known to Mr. Dubois, who is considered to be the leading authority, amongst rafters, on cave locations in the canyon. Many yet unfound caves may exist.

Summary of Findings: Caves located can be grouped into two general classifications. First, small solution cavities and rock shelters, in the range of 10 - 50 feet above the river level, contain essentially no speleothems (formations). They are of very recent genesis. Some are still in process of phreatic enlargement.

Second, larger and more decorated caves, in the range of 65 - 120 feet above the river level, which show genesis relating to the fourth period of glaciation within the Pleistocene. Primarily formed by phreatic action of resurgences, they show some vadose alteration.

Differences in elevation of the cave entrances, above the river level, are due to two basic factors. First, within the fourth period of glaciation, there were several sub-periods of river level stability. These would be cross referenced with the moraines of the Yosemite Valley, for example.

P.S. Dave [illegible] Ernie Dittman, Tom Briggs + I met [illegible] Lew Ints of BLM and a Rep. from Bur. of Reclam. [illegible] West. The CE is suggesting to buy about 3,000 additional acres to preserve caves etc. & the BLM will place another 3,000 adjacent into withdrawn lands to be administered by the same agency. Bur R will run recreation on lake.

Second, dikes of less corrosive rock, crossing the river channel, caused damming of the river with resultant back pressure pools and down stream rapids. The caves that formed below rapids are much closer to river level than those formed above back water, since most dissolution probably probably occurred during times of great storms and flooding. Remnants of travertine covered alluvium and talus about 110 feet above river level, slightly upstream from intusive dikes (which still cause bars and pools to form at present river level with resultant rapids) indicate that major backing of floodwater occurred just below the confluence with Grapevine Creek, at the confluence with Marianna Creek, and about a mile below the confluence of the South Fork.

Descriptions of Caves: The same methods of description are used as were used by the NSS-NMTF. For an explanation of terminology and symbols used, please refer to: Stanislaus Cave Country, Report of Study, NSS NMTF.

The fpllowing caves are described in alphabetic order. Classified locational data follows abe the end of this report.

BAY CAVE - Elev. about 1,000. Co,G,T

A low ceilinged chamber extends from a 4 foot wide by 5 foot high entrance for about 10 feet. This chamber is large enough to accomodate one man sitting against the wall. The ceiling and outer area are covered with black soot, evidencing the usage by early man.

BEND CAVES - Elev. about 925. No formations

Two small grottos entered through tight crawls. Length about 15 feet.

CABIN CAVE - Elev. about 920. No formations

A solution cavity near the river with one small room. Small entrances from one side and near the top. Total length about 20 feet.

CHINESE CAVES - Elev. about 915 - 920. No formations

Numerous small solution cavities of varying shapes having been formerly filled with aluvium and excavated by miners of chinese extraction.

CONFLUENCE CAVE - Elev. about 915. No formations

A large horizontal opening diminishs into a chamber 20 feet in length and large enough for several people to sit and stand for shelter.

CORAL CAVE - Elev. about 990. C,Co,D,G,H,R,Sc,Sh,So,St,T

The amin entrance, 6 feet high and 16 feet wide, leads over massive breakdown to a 40 by 40 foot sloping entrance chamber 8 feet high in the twilight zone. Another entrance slot 3 by 10 feet can be seen about 15 feet higher to the left. A large travertine canopy is in the center of the chamber. To the right, a crawlway slopes upward about 10 feet over vandalized cave coral to a highly decorated maze of phreatic origin. A total distance of about 300 feet can be traversed among massive stalagtites, columns, shields and speleogenic fins. The ceiling varies from 3 feet to 7 feet and one tight pinch must be crawled sideways. A lake 10 by 20 feet must be skirted initially. Several lovely rimstone pools are in the central portion. Water was dripping vigorously into one pool during our visit. The cave is relatively unvandalized with many pure white formations.

DUCKBAR CAVE - Elev. about 915. No formations

A 4 foot wide by 5½ foot high entrance, resembling a mine adit, goes for about 20 feet with another small entrance sloping in from the right side. At the rear, a large chimney leads upward 15 feet to another entrance above. It appears to be a natural solution cavity fill excavated by miners

DUCKBAR PIT - Elev. about 930. No formations

Resembling a mine shaft, this natural pit, excavated by miners, could pose a hazard to casual visitors swimming or wading the nearby flat surfaced area, when lake levels are shallow above it. It is about 6 feet in diameter and about 20 feet deep.

FLOODED CAVE - Elev. about 955. No formations

A classic cave entrance 1½ by 2 feet leads downward on a slope for about 3 feet to a solution cavity filled with water. A small resurgence (spring), emerging about 4 feet below the opening, is the obvious drainage for the cave, which is still in its genesis about 7 feet above the river level at 3,200 cfs flow. The opening is evidently a larger resurgence during flood stage of the river.

HANGING GARDENS CAVE - Elev. about 900. Co, T

Located just above the waters edge, a group of small openings lead back about 15 feet through a tight crawl. The most noteworthy feature is the ferns growing near the entrance. It is still in its initial phreatic genesis.

INDIAN DWELLING CAVE - Elev. about 1,010. C,St,T

This cave, created by a former multiple aquifer resurgence, has a chamber leading about 12 feet horizontally back from a fully open entrance 5 feet wide and 6 feet high. A crawlway 2 feet wide and 1½ feet high slopes upward and to the right for another 10 feet. Black soot on the ceiling indicates its use as a shelter by Indians, perhaps thus using the quarry cave nearby. The entrance is difficult to reach in a steep gully, was easily defensible, and afforded a comprehensive view of the river below and its adjacent sand bar.

INDIAN QUARRY CAVE - Elev. about 1,010. T

This cave, with a horizontal solution passage having a classic flat ceiling and rounded sides, is obviously of phreatic origin, and is apparently the remnant of a pressure aquifer running parallel to the river. One side of a similiar aquifer passage that has been eroded away is evident parallel to the cave passage, but about 2 feet higher and 4 feet to the right on the cliff surface outside. The 4 foot high and 5 foot wide upstream entrance was, no doubt, not originally exposed until a portion of the cliff wall collapsed, leaving the 30 foot long remnant. The aquifer finally emerged at a right angle through a large passage 5 feet wide and 6 feet high that is about 15 feet long. A smaller aquifer, from above, apparently junctioned at that point, and before joining to form the compound resurgence cavity, flowed through a small hole just below the ceiling on the west side to form two low ceilinged rooms about 10 by 15 feet that may be entered from openings in the cliff facing slightly downstream. Large pieces of decomposing travertine are found in the larger chamber and along the bottom of the remnant of the parallel passage on the cliff nearby. It appears that Indians engaged in quarrying operations here for manufacture of religious jewelry.

INDIAN QUARRY CAVE #2 - Elev. about 1,010. T

This cave is similiar , but smaller, and is located on the same level somewhat upstream. Indian hammer stones were still present.

MOTHER CAVES - Elev. about 960. No formations

Numerous small solution cavities, all in the twilight zone, are to be found in an area about 15 feet above the river. In addition to black soot on the ceilings, a reported cache of arrow heads, evidenced extensive use by Indians. In the January issue of California Geology, William Wright says, "Many caves in this area were used by Native Americans as campsites or permanent dwellings (see back cover)." The back cover shows a picture of petroglyphs. The reported petroglyphs were not seen by us. However, we did discover, directly across the river, a group of at least 13 grinding holes. At least 10 grinding rocks (pestils) were still present, as well as, at least one miden deposit.

McCLEAN'S CAVE - Elev. about 990.

The desciption and inventory of values given in Stanislaus Cave Country still seems accurate, so that no further comment is necessary, except to say that its genesis was probably as a multiple aquifer resurgence and that it has three distinct levels with false floors between. It is at an identical level with Coral Cave, although they are located a mile apart. Their genetic relationship was explained earlier.

MOBLEY'S CAVE - Elev. about 1,070 (Lower entrance).

The desciption and inventory of values in Stanislaus Cave Country will suffice here also; except, the elevation of the cave was found to be significantly lower than reported. The lower entrance is about 120 feet above the river and directly above Ringtail Cave, Bay Cave and Flooded Cave. They, obviously, all had their genesis from the same aquifer resurging at various levels during various stages of river stability. Mobley's Cave is vastly larger than the others and has a related genesis to Coral Cave and McLean's Cave. These three seem the most significant of all studied. Mobley's Cave's elevation is somewhat higher since it is located much further up along the stream gradient, and above at least two dikes in the river as explained earlier.

NAIL CAVE - Elev. about 930. No formations

A natural horizontal passage about 10 feet long at right angles to the river has an appearance similiar to a mine tunnel. It was found to contain a box of handmade square nails as used in early mining operations across the river. During that period of time, the river did not have the high perrenial flow now provided by the PG&E powerhouse upstream. During the summer months, the miners apparently used this cave as a storage room and possibly as a dynamite cache.

RINGTAIL CAVE - Elev. about 1,015. Cc,Cl,St,So,T

An opening 3 feet wide and 8 feet high leads about 25 feet on a slight upward slope before ascending a series of small irregular shaped chimneys and ledges for about 65 feet. This could be a dangerous cave for casual visitors when the lake level is slightly below the top of the entrance. The cave's genesis is directly related to that of Mobley's Cave just above.

RAZORBACK CAVE - Elev. about 930. No formations

This is a small rock shelter with black soot on the ceiling. A group of grinding rocks were found directly across the river.

RAZORBACK GROTTO - Elev. about 920. No formations
A small chmaber, in the twilight zone, is entered through a small crack.

SHARKSMOUTH SPRINGS CAVE - Elev. about 895. T
Several holes are found under a canopy of travertine below a spring about 20 feet above the river.

TRAVERTINE CAVES - Elev. about 1,040. T
A series of small erosion cavities are found in calcited aluvium of sharp edged small rocks under a narrow, but about 100 yard long, cap of travertine just upstream of a non-corrosive dike. They are a part of an apparent remnant of aluvial fllod sediment deposited during the last glacial period of the Pleistocene. They are near the same level as the lower entrance to Mobley's Cave, and, no doubt, are related in genesis.

UNNAMED CAVE - Elev. about 1,000. No formations
A small drainage cavity about 10 feet in length.

WATERFALL CAVE - Elev. about 1,010. Cc,T
A small hole leading to a crawlway sloping upward, is located behind a waterfall in a steep portion of an intermittent stream. Twenty feet to the left and about 10 feet higher, is a horizontal entrance about 8 feet wide and about 15 feet high. Still within the twilight zone (because of the huge entranceway), is a chamber about 12 feet wide and about 20 feet long. A 3 foot wide chimney slopes downward along the dip of the bedding toward the waterfall entrance. Another small chimney, richly decorated with large cave coral of the type known as "popcorn", leads upward to the north. The area near and below the entrances and waterfalls has a very high esthetic value, and, no doubt, will attract many visitors from the lake surface. No serious hazards should be encountered.