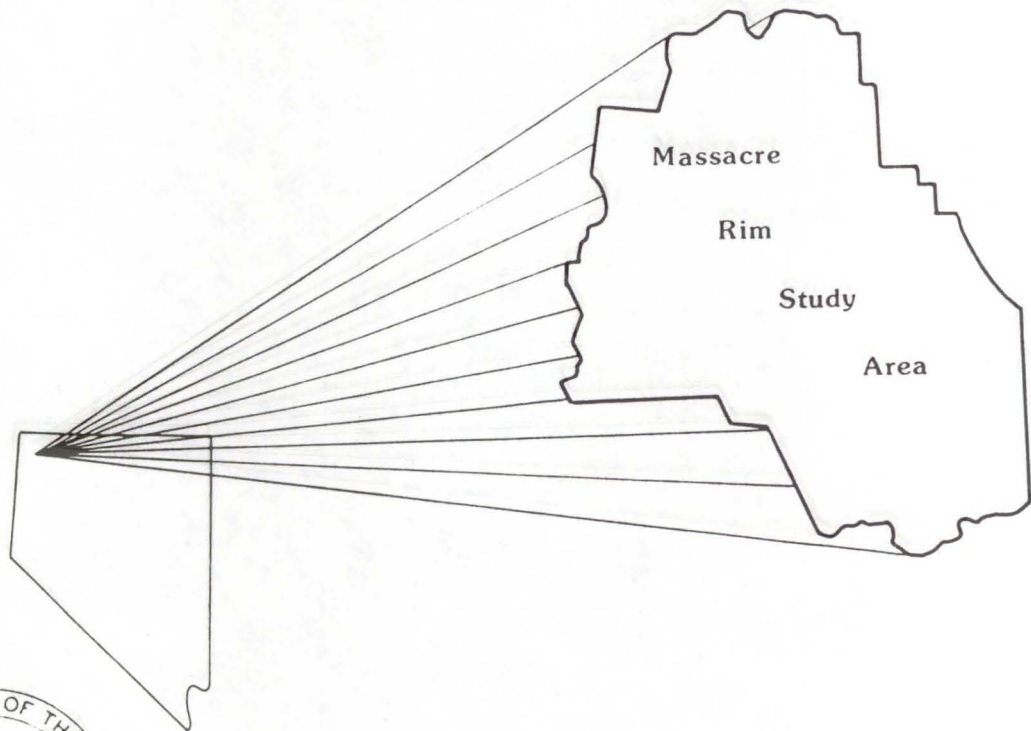


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Mineral Land Assessment/1987
Open File Report

Mineral Resources of the Massacre Rim Study Area, Washoe County, Nevada



BUREAU OF MINES
UNITED STATES DEPARTMENT OF THE INTERIOR

MINERAL RESOURCES OF THE MASSACRE RIM STUDY AREA
WASHOE COUNTY, NEVADA

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PREFACE

The Federal Land Policy and Management Act (Public Law 94-579, October 21, 1976) requires the U.S. Geological Survey and U.S. Bureau of Mines to conduct mineral surveys on U.S. Bureau of Land Management administered land designated as Wilderness Study Areas ". . . to determine the mineral values, if any, that may be present . . ." Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a Bureau of Mines mineral survey of a portion of the Massacre Rim Wilderness Study Area (CA-020-1013), Washoe County, NV.

This open-file report presents the results of a Bureau of Mines wilderness study which will be summarized in a joint report published by the U.S. Geological Survey. The data were gathered and interpreted by Bureau of Mines personnel from Western Field Operations Center, 360 East Third Avenue, Spokane, WA, 99202. The report has been edited by members of the Branch of Mineral Land Assessment at the field center and reviewed at the Division of Mineral Land Assessment, Washington, DC.

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SUMMARY

In 1985, at the request of the Bureau of Land Management, the U.S. Bureau of Mines studied a portion of the 110,000 acre Massacre Rim Wilderness Study Area (CA-020-1013). The area studied, containing 23,260 acres, is located in northwest Washoe County, Nevada, about 25 miles west of Vya adjoining the Charles Sheldon National Wildlife Refuge. Basalt caps older tuffaceous sedimentary rocks in an area that contains no claims or prospects.

No mineral resources were identified during this investigation.

INTRODUCTION

This report describes the USBM (U.S. Bureau of Mines) portion of a cooperative study with the USGS (U.S. Geological Survey) to evaluate mineral resources and potential of part of the Massacre Rim WSA (Wilderness Study Area) at the request of the BLM (U.S. Bureau of Land Management). The USBM examines individual mines, prospects, claims, and mineralized zones and evaluates identified mineral and energy resources. The USGS evaluates potential for undiscovered resources based on areal geological, geochemical, and geophysical surveys. Information from these mineral surveys relates to one aspect of the area's suitability for wilderness classification. Although the near-term goal of this and other USBM mineral surveys is to provide data for the President, Congress, government agencies and the public for land-use decisions, the long term objective is to help ensure an adequate and dependable domestic supply of minerals at reasonable cost.

Setting

The 23,260-acre study area, part of the 110,000 acre Massacre Rim WSA is located in northern Washoe County, NV, and adjoins the southwest corner of the Sheldon National Wildlife Refuge (fig. 1). The study area is administered by the BLM district office in Susanville, CA. The northeast corner of the study area is bounded by private land; the remainder is bordered by public land.

Access to the study area is by gravel road (Washoe County Road 8A) from Vya, NV, a distance of about 25 mi (miles). Several unimproved dirt roads access the edge of the study area. A jeep trail across the Sheldon National Wildlife Refuge accesses the north side of the study area.

The topography is typical northwestern Great Basin open plateau containing ephemeral lake basins. Elevations range from about 5,670 ft (feet) on the northwest side to 6,370 ft on the southwest side of the study area.

Vegetation is dominantly sagebrush with interspersed grasses. A few juniper are scattered through the area.

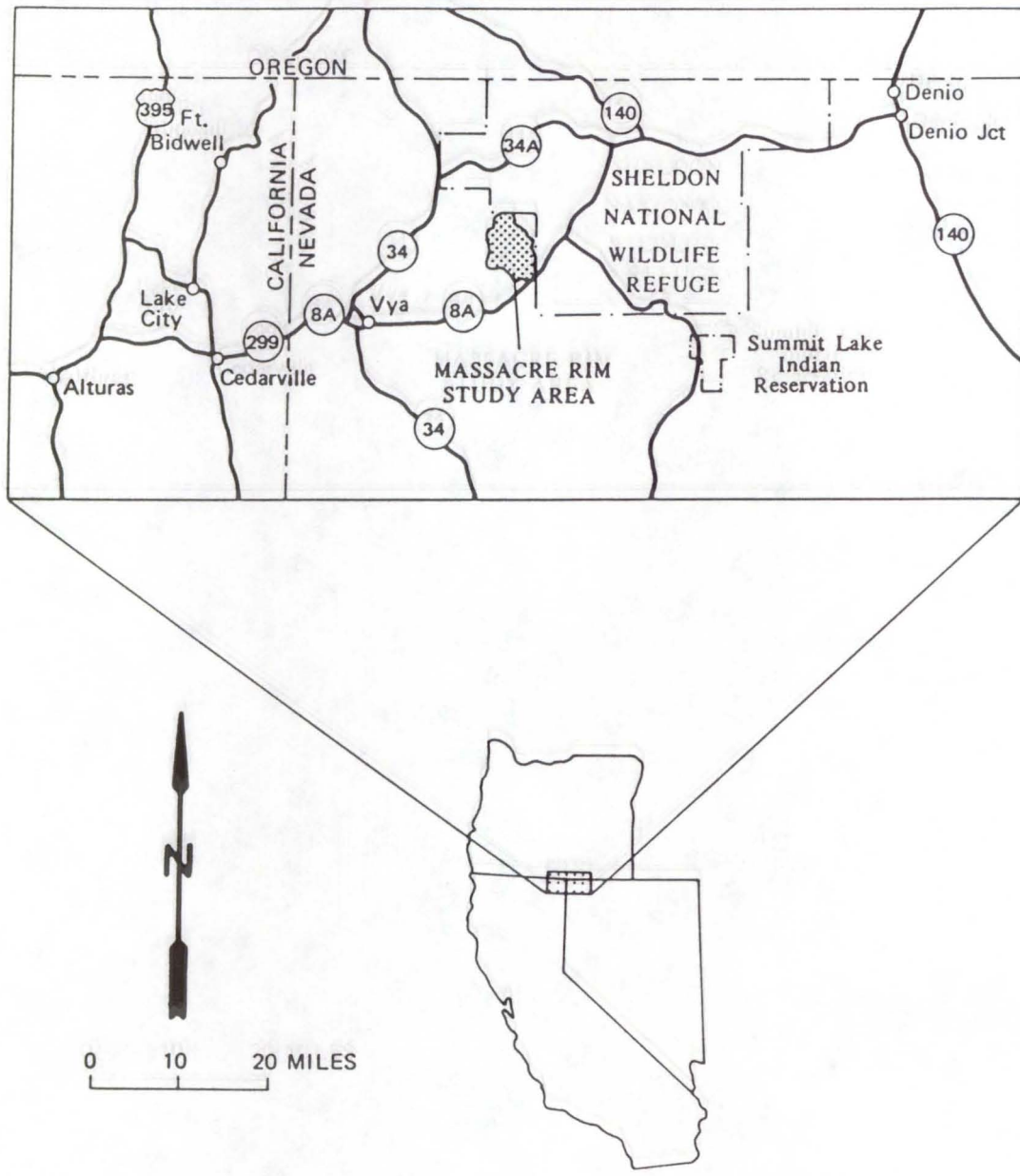


FIGURE 1. - Location of Massacre Rim study area, Washoe County, NV

Previous Studies

A study of the geology and mineral deposits of Washoe County (Bonham, 1969) did not note any mineral resources in the study area. One study (U.S. Geological Survey and U.S. Bureau of Mines, 1984) of the Charles Sheldon Wilderness Study Area included a small portion of this area. Two general reports (Larson and Beal, 1978; Howell, 1979) cover this region, but have no specific mineral information relating to the study area.

Present Study

Preliminary work included a review of information relating to current and past mining activities in and near the study area. Library research included USBM files and Mineral Industry Location System (MILS). BLM mining claim recordation indices, land status and use records, and Washoe County claim records were examined. The field study during July 1985, consisted of vehicle and foot reconnaissance for mines, prospects, mineralized zones, and claims.

Four rock samples and one alluvial sample were taken. The rocks collected were grab samples (a collection of rock fragments taken more or less at random from an outcrop). All samples were checked for radioactivity and fluorescence. The rock samples were crushed, pulverized, and split, and then sent to the USBM Reno Research Center for analysis. All rock samples were assayed for gold and silver using a combined fire assay-inductively coupled plasma method. One sample was analyzed for mercury by x-ray fluorescence. Detection levels were: gold = 0.007 ppm; silver = 0.3 ppm; mercury = 70 ppm. A sample of tuff was checked for the presence of zeolites by x-ray diffraction.

Semiquantitative spectrographic analyses for 40 elements ^{1/} were done on the samples to determine any anomalous concentrations.

A grab sample of alluvium was collected from the bank of a stream draining the west side of the study area (fig. 2, no. 5). The sample was concentrated in the field using a gold pan and further processed on a Wilfley Table in the USBM's WFOC (Western Field Operations Center) placer laboratory. The concentrate was examined for gold, scheelite, ilmenite, garnet, zircon, and magnetite.

ACKNOWLEDGEMENTS

The author gratefully acknowledges the assistance of Doug Scott, Physical Scientist, U.S. Bureau of Mines, WFOC, on the project. The USBM appreciates Don Coops allowing access to the study area across his private land.

^{1/} Aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, calcium, chromium, cobalt, copper, gallium, gold, iron, lanthanum, lead, lithium, magnesium, manganese, molybdenum, nickel, niobium, palladium, phosphorus, potassium, platinum, scandium, silicon, silver, sodium, strontium, tantalum, tellurium, tin, titanium, vanadium, yttrium, zinc, and zirconium.

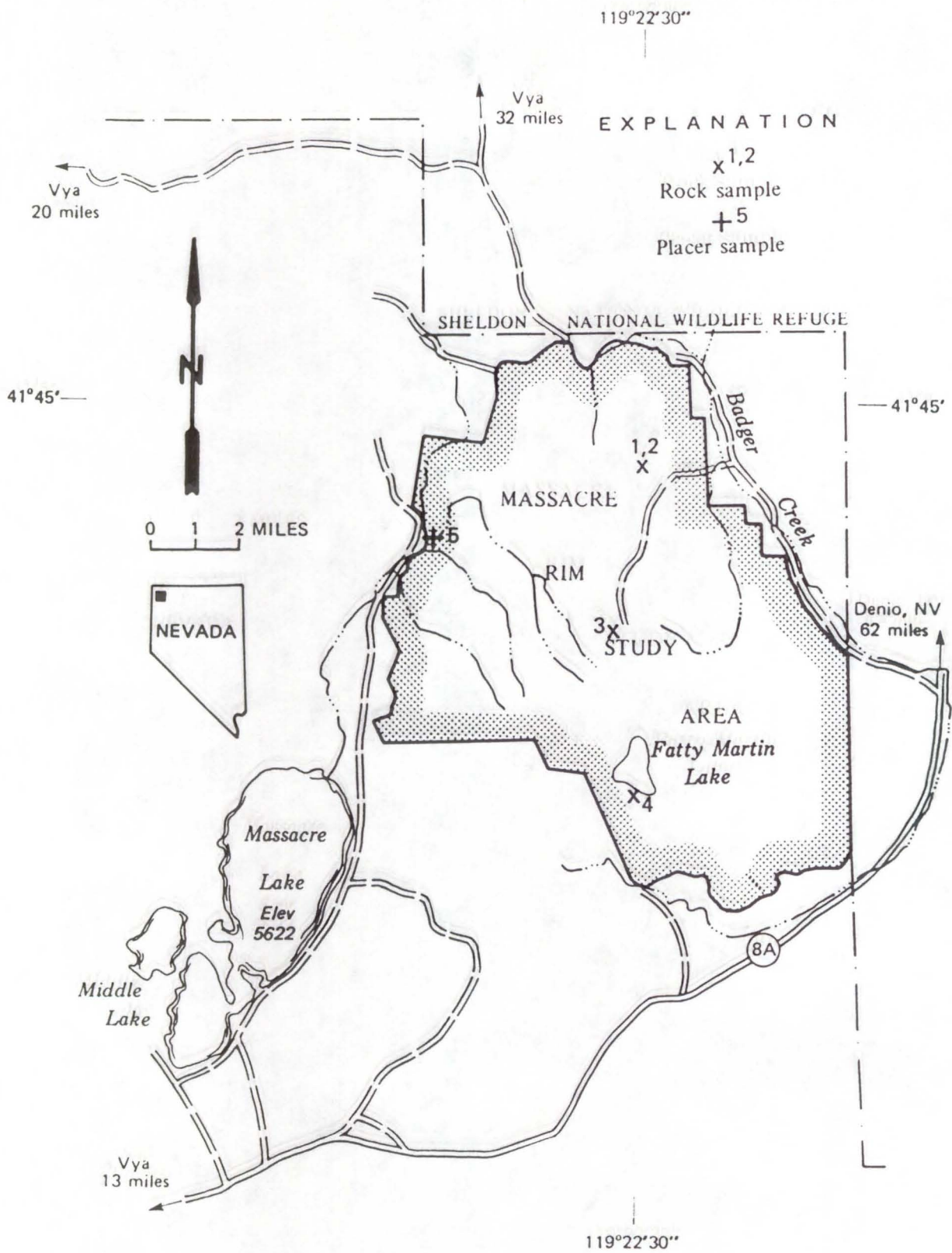


FIGURE 2. - Location of sample sites in the Massacre Rim study area, Washoe County, NV

GEOLOGIC SETTING

The Massacre Rim study area is in the Basin and Range physiographic province of the Western United States. Basalt of Catnip Creek (U.S. Geological Survey and U.S. Bureau of Mines, 1984, p. 29) covers most of the study area. Tuffaceous sedimentary and pumiceous rocks outcrop near the center of the study area and probably underlie the basalt cap. A caldera has been postulated to underlie the eastern part of the study area (U.S. Geological Survey and U.S. Bureau of Mines, 1984).

MINING ACTIVITY

The Lone Pine mining district (Ross, 1941; Bailey and Phoenix, 1944) is located about 5 mi northwest of the study area. Primarily a mercury district, present examination by claimants is directed toward gold potential in altered silicified andesite and interbedded tuff. Within the study area, no mines, claims, prospects, or indication of mineral activity were found.

APPRAISAL OF MINERAL RESOURCES

No mineral resources or prospects with potential for mineral development were identified in the Massacre Rim study area. No gold, silver, mercury, or zeolites were found in any of the rock samples of brecciated tuff, tuff altered to montmorillonite, pumiceous volcanic rock, and basalt. No anomalous concentrations of valuable minerals were found in the grab sample of alluvium. The nearest mineral prospects are for gold and mercury in the Lone Pine mining district. No exposures of similar material were observed in the study area.

No surface manifestations of the postulated caldera (U.S. Geological Survey and U.S. Bureau of Mines, 1984) were found in the study area, and possible caldera-associated resources could not be evaluated. Elsewhere in the Basin and Range, calderas are associated with disseminated gold, mercury, and uranium epithermal mineralization (Rytuba, 1981). Exploration for undiscovered subsurface resources would be expensive, and it is unlikely that disseminated deposits could be profitably mined by underground methods.

No valuable industrial minerals were noted. Basalt from the study area could be crushed and used for road metal or stone products, but is not classified as a resource because of distance from market and abundance of other suitable materials in the region.

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