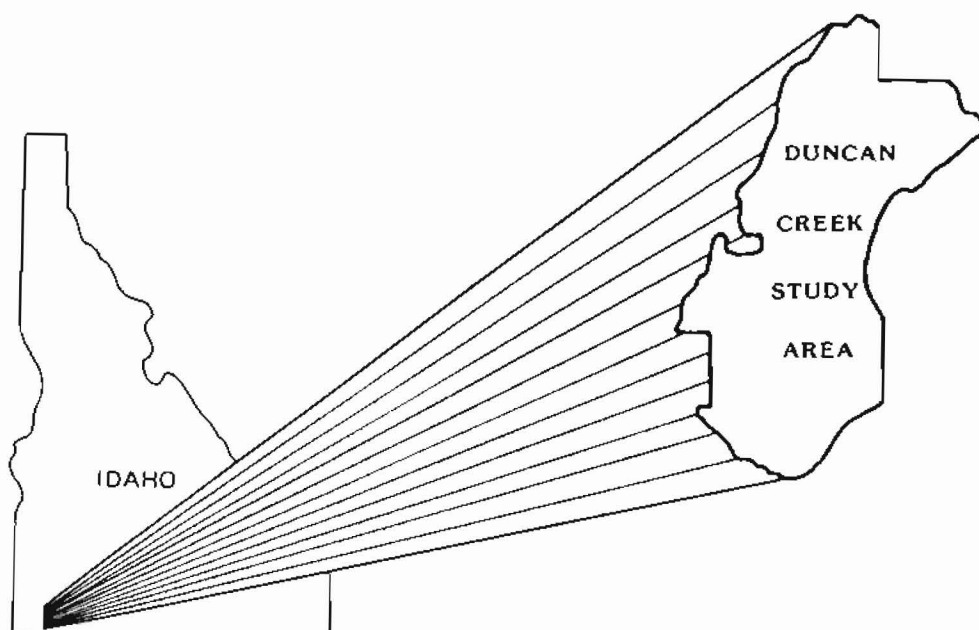




Bureau of Mines Mineral Land Assessment/1986
Open File Report

Mineral Resources of the Duncan Creek Study Area, Owyhee County, Idaho



BUREAU OF MINES
UNITED STATES DEPARTMENT OF THE INTERIOR

MINERAL RESOURCES OF THE DUNCAN CREEK STUDY AREA,
OWYHEE COUNTY, IDAHO

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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 Duncan Creek Wilderness Study Area (ID-111-7B), Owyhee County, ID.

This open-file report 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, East 360 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 U.S. Bureau of Land Management, the U.S. Bureau of Mines studied 9,400 acres of the 10,005-acre Duncan Creek Wilderness Study Area (ID-111-7B) in order to evaluate the mineral resources. The study area is located in Owyhee County, ID, about 36 miles southwest from Bruneau, ID. No mining districts are in the study area, nor were any mines or claims recorded or found. The southern half of the area was covered by oil and gas lease applications, all of which were cancelled prior to June, 1985. No economic concentrations of minerals were found in the study area.

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 the Duncan Creek 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. Results of the investigations will be used to help determine the suitability of the study area for inclusion into the National Wilderness Preservation System. Although the immediate 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 ensure the Nation has an adequate and dependable supply of minerals at a reasonable cost.

Setting

The Duncan Creek study area, consisting of 9,400 acres of the 10,005-acre Duncan Creek WSA (Wilderness Study Area), is located about 36 mi (miles) southwest of Bruneau, ID (figs. 1 and 2). It lies immediately southeast of Big Jacks Creek study area (Winters and Leszykowski, 1986). The area is bounded by unimproved roads and is accessible from Idaho Highway 51. From Bruneau, ID, access is south on route 51 for 28.5 mi then west on the Yatahoney-Battle Creek road for about 8 mi to a network of roads around the area.

Highest elevation is 5,800 ft (feet) in the southwestern portion of the study area; the lowest point is 4,550 ft in the northern portion. North-flowing Duncan Creek enters the southern portion of the study area, then flows through a near-vertical-walled canyon several hundred feet deep through the remainder of the area.

The study area is in a semiarid zone, receiving 10 to 20 in. (inches) of precipitation annually, mostly during the winter months. The low brush (sage is dominant) and grasses are typical of the southern Idaho desert.

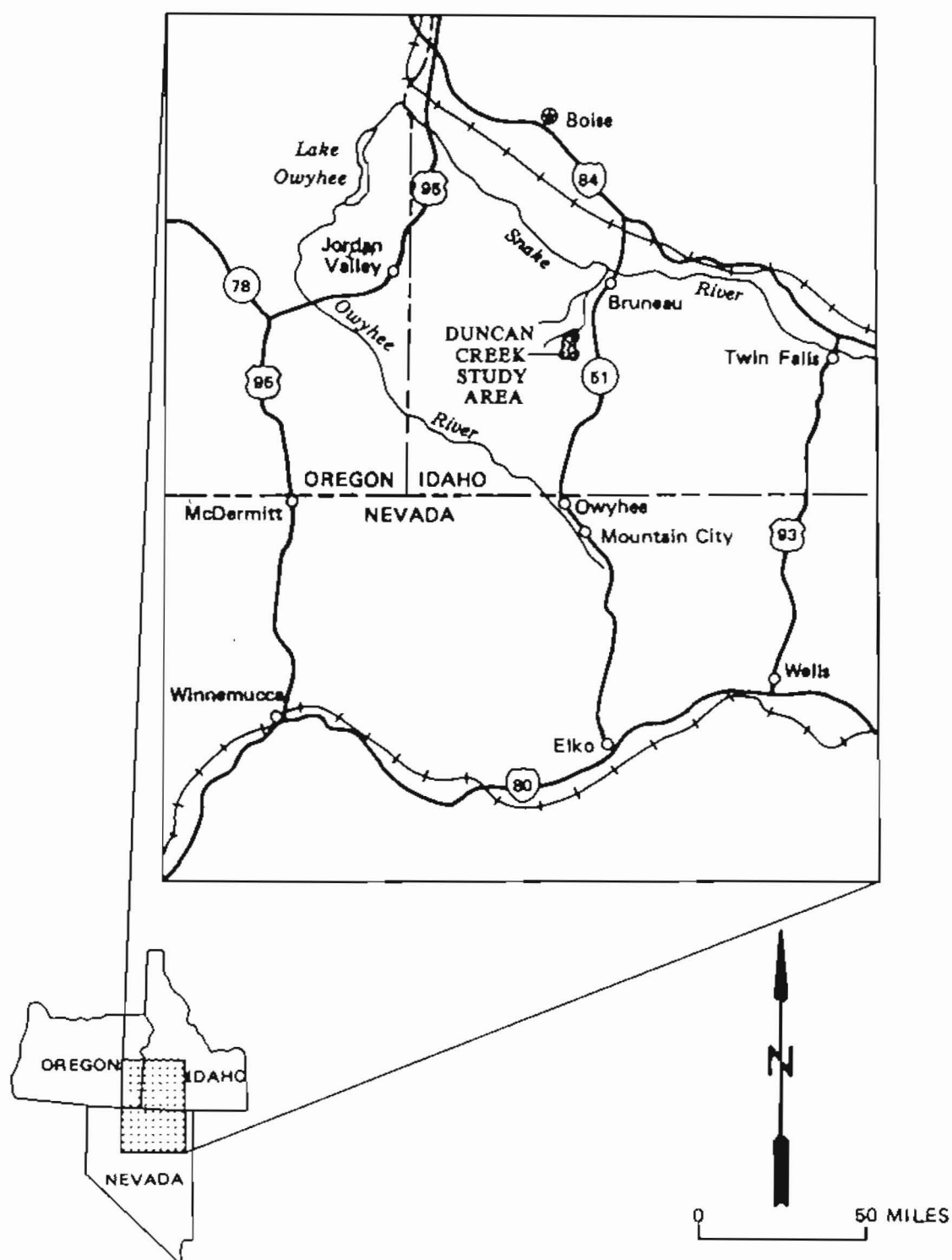


FIGURE 1. - Location of the Duncan Creek Study area, Owyhee County, ID

R 3 E | R 4 E

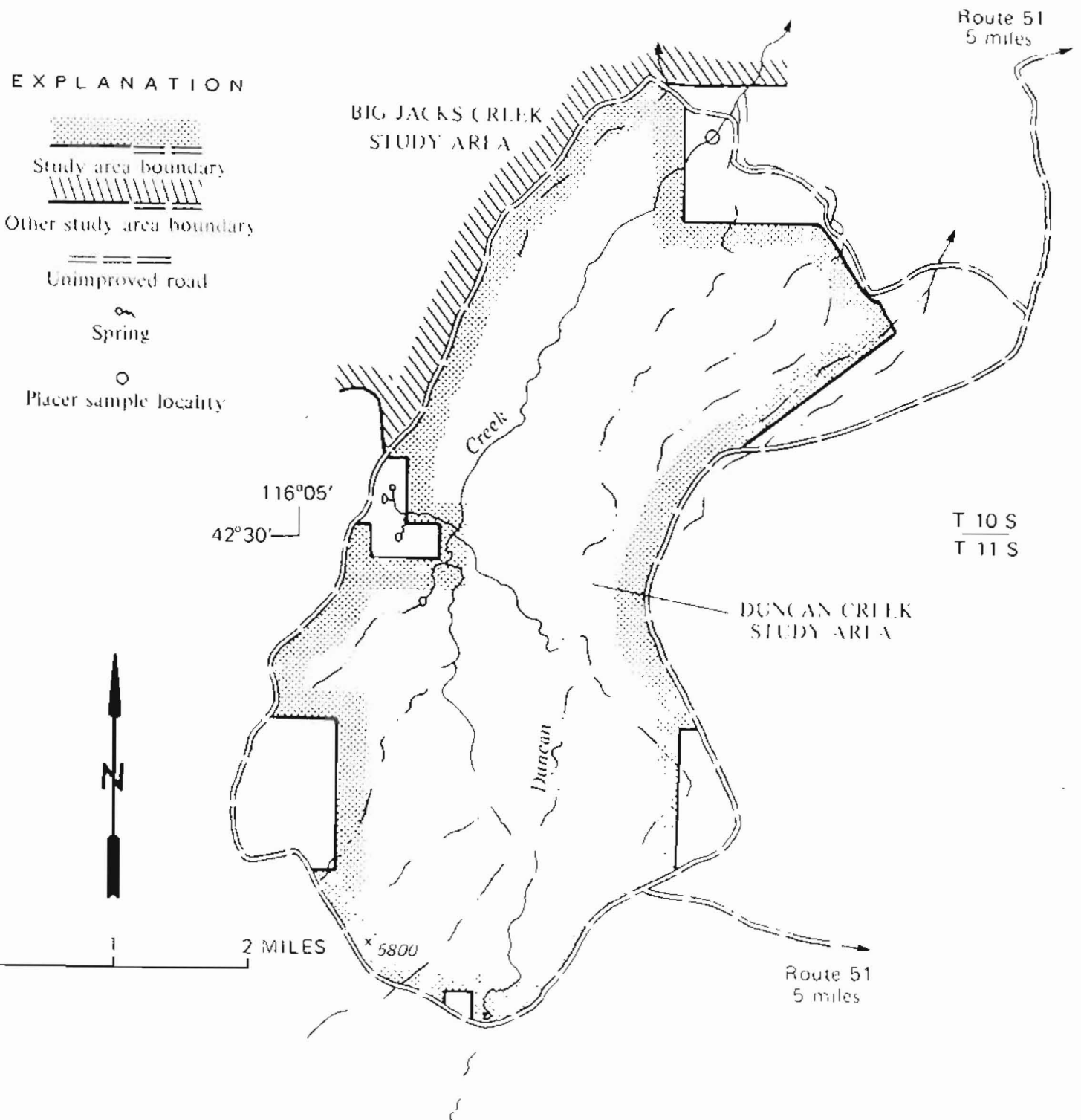


FIGURE 2 - Duncan Creek study area, Owyhee County, ID

Previous Studies

Geologic mapping was accomplished by Malde and others (1963) and Ekren and others (1981). The assessment of GEM (geology, energy, and mineral) resources by Mathews and Blackburn (1983) includes the Duncan Creek study area. Other studies, regional or general in nature and providing supplemental data covering the study area are: Warner (1980), oil and gas exploration; Mitchell and Garson (1981), tectonic setting; Bonnichsen (1982), eruptive center; Ekren and others (1984), ash-flow tuffs; Siems and others (1984), hydrothermal alteration.

Present Study

The USBM examined the study area in 1985. Prefield studies included research at the USBM library and examination of Owyhee County and BLM mining claim, lease, and land status records. These data were used to study the geologic setting, mining history, possible mineral commodities, mining claim ownership, claim locations, and access. Bureau of Mines and State mineral production records were examined. Field studies involved searches for any mines, prospects, claims, and mineralized geologic structures not noted in the literature. One placer sample was taken from stream sand and gravel. The alluvial sample, consisting of two level panfuls, was first concentrated by hand panning. The concentrate was further reduced by a laboratory-sized Wilfley table and inspected microscopically for gold and other valuable minerals. None were found.

ACKNOWLEDGEMENTS

The authors wish to thank Julia Cannon and Buneta Wilson of the BLM Idaho State Office for their compilation of oil and gas lease applications.

GEOLOGIC SETTING

The Duncan Creek study area is in the Owyhee Uplands subprovince of the Columbia Intermontane geologic province (Pansze, 1975, p. 1), informally known as the Owyhee volcanic field (Pansze, 1975, p. 9).

The entire study area is covered with ledge-forming, flow-layered Tuff of Little Jacks Creek of Miocene age (Ekren and others, 1982, p. 229). Thickness of this tuff in the study area is up to 1,000 ft (Ekren and others, 1984, p. 55). Bonnichsen (1982, p. 252) suggests that this tuff was erupted from a vent along the southwestern margin of the western Snake River Plain. Ekren and others (1984, p. 50 and 65) place the source of Little Jacks Creek Tuff in the same general area, which they feel is expressed today as a gentle dome without any structural features indicative of caldera subsidence. The composition of the basement rock is unknown.

Sand and gravel occurrences along Duncan Creek and tributaries are small in volume and are derived from the local extrusive rocks.

APPRAISAL OF MINERAL RESOURCES

No mining districts are in the study area, nor have any mines, claims, or mineral production been reported. Prior to June, 1985, the southern half of the study area was covered by oil and gas lease applications, all of which have been cancelled. No economic concentrations of minerals were detected.

REFERENCES--continued

Winters, R. A., and Leszykowski, A. M., 1986, Mineral resources of the Big Jacks Creek study area, Owyhee County, Idaho: U.S. Bureau of Mines Open-File Report, in preparation.