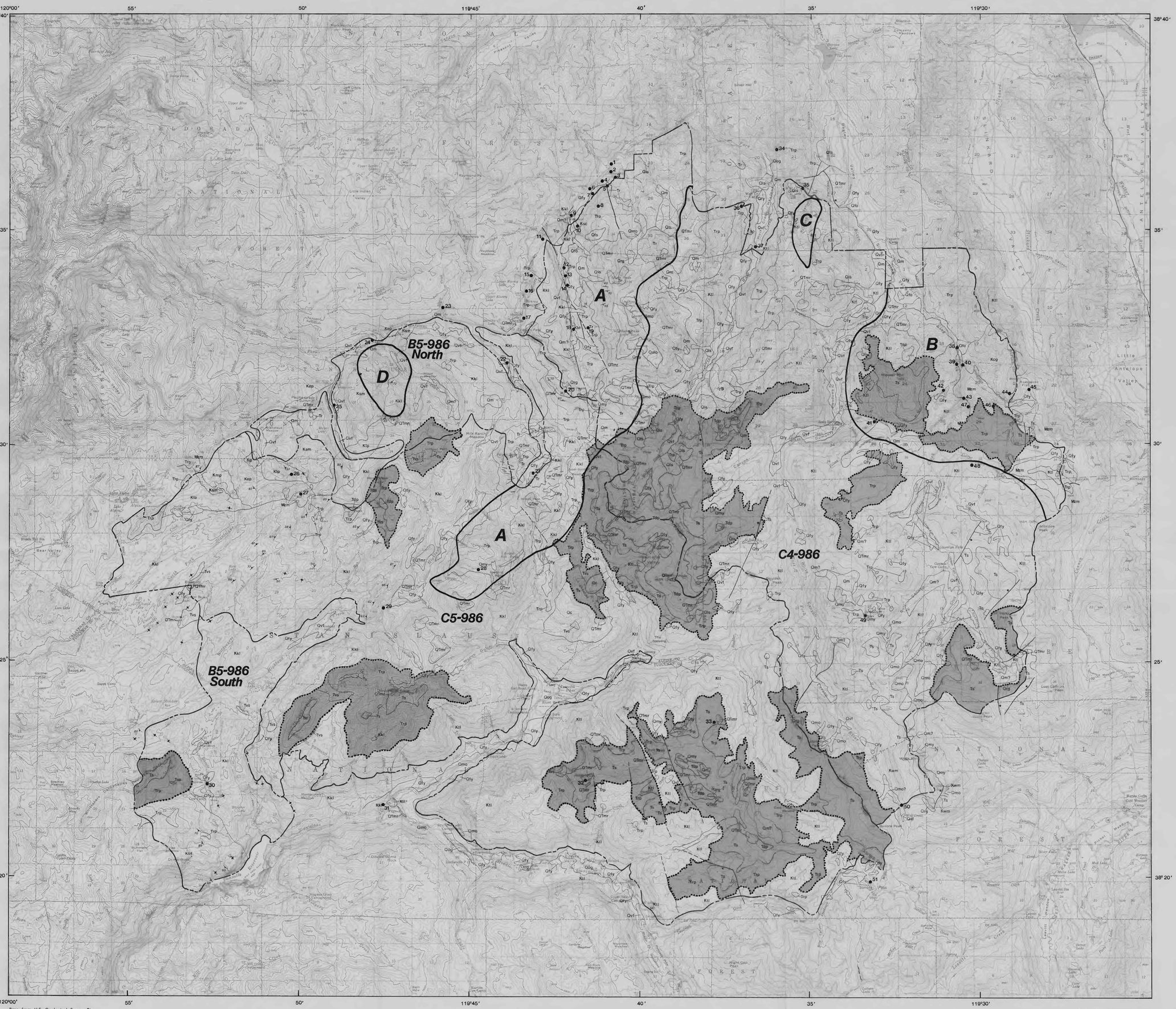

Base from U.S. Geological Survey Big Meadows, Dardanelles Cone, Markleeville, Silver Lake, Sonora Pass, Topaz Lake, 1956

APPROXIMATE MEAN DECLINATION, 1983

SCALE 1:62500

CONTOUR INTERVAL 80 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Geology from Keith and others (1982)

MINERAL RESOURCE POTENTIAL MAP OF THE CARSON-ICEBERG ROADLESS AREAS, CENTRAL SIERRA NEVADA, CALIFORNIA

By
William J. Keith, Maurice A. Chaffee, and Donald Plouff
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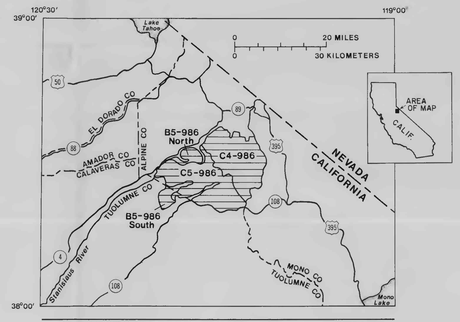
Michael S. Miller
U.S. Bureau of Mines

1983



Number	Area
C4-986	Toiyabe National Forest
C5-986	Stanislaus National Forest
B5-986 North and South	Stanislaus National Forest

INDEX MAP SHOWING LOCATION OF THE CARSON-ICEBERG ROADLESS AREAS (LINED AREAS)

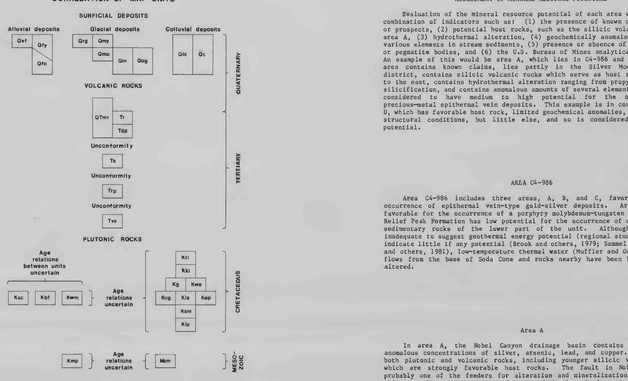
EXPLANATION

A — AREA FAVORABLE FOR OCCURRENCE OF MINERAL DEPOSITS—Labeled A-D

AREA FAVORABLE FOR OCCURRENCE OF URANIUM

BOUNDARY OF ROADLESS AREA—Labeled C4-986, C5-986, and B5-986 North and South

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS

Alluvial deposits

Qvf VALLEY-FILL DEPOSITS, UNDIVIDED (QUATERNARY)

Qfy YOUNGER ALLUVIAL FAN DEPOSITS (QUATERNARY)

Qfo OLDER ALLUVIAL FAN DEPOSITS (QUATERNARY)

Glacial deposits

Qrg ROCK-GLACIER DEPOSITS (QUATERNARY)

Qmy YOUNGER GLACIAL MORAINE DEPOSITS (QUATERNARY)

Qmo OLDER GLACIAL MORAINE DEPOSITS (QUATERNARY)

Qm GLACIAL MORAINE DEPOSITS, UNDIVIDED (QUATERNARY)

Qbg OUTWASH GRAVEL DEPOSITS (QUATERNARY)

Colluvial deposits

Qls LANDSLIDE DEPOSITS (QUATERNARY)

Qc COLLUVIUM (QUATERNARY)

VOLCANIC ROCKS

QTwr MAFIC ROCKS, UNDIVIDED (QUATERNARY AND TERTIARY)

Tr RHYOLITIC ROCKS (TERTIARY)

Tdp DISASTER PEAK FORMATION OF SLIMGUMS (1966) (TERTIARY)

Ts STANISLAUS GROUP (TERTIARY)

Trp KELLEY PEAK FORMATION OF SLIMGUMS (1966) (TERTIARY)

Tvs VALLEY SPRINGS FORMATION (TERTIARY)

PLUTONIC ROCKS

Kcl GRANODIORITE OF TOPAZ LAKE (CRETACEOUS)

Kbl GRANODIORITE OF KINNEY LAKES (CRETACEOUS)

Kg GRANODIORITE (CRETACEOUS)

Kwo GRANODIORITE WEST OF THE ELBOW (CRETACEOUS)

Kac ALASKITE OF SILVER CREEK (CRETACEOUS)

Kbf GRANODIORITE OF BUMPERS FLAT (CRETACEOUS)

Kwm GRANODIORITE OF WHITE MOUNTAIN (CRETACEOUS)

Krg GRANODIORITE OF CHIMA GARDEN (CRETACEOUS)

Kle GRANODIORITE OF LAKE ALPINE (CRETACEOUS)

Kep ZEMETTS PASS GRANODIORITE OF WILSONIA (1957) (CRETACEOUS)

Kam STANISLAUS MEADOW ADAMELLITE OF PAMPAS (1961) (CRETACEOUS)

Klp LONGVIEW PEAK TONALITE OF PAMPAS (1961) (CRETACEOUS)

METAMORPHIC ROCKS

Kmp GRANITIC GNEISSES OF THE MOKELUMNE PEAK ROOF PENDANT (CRETACEOUS)

Mzm METAMORPHIC ROCKS, UNDIVIDED (MESOZOIC)

CONTACT—Approximately located; short dashed where inferred; queried where doubtful

FAULT—Dashed where inferred or approximately located; dotted where concealed; bar and ball on downthrown side

STRIKE AND DIP OF BEDDING

STRIKE AND DIP OF FOLIATION

Foliation of metamorphic and plutonic rocks

Inclined

Vertical

Flow foliation of volcanic rocks

Inclined

Vertical

RHYOLITIC TO MAFIC DIKES

MORAINE CREST

STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U. S. Geological Survey and the U. S. Bureau of Mines to inventory and study roadless areas in National Forest Wilderness Areas for mineral potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a mineral resource potential survey of the Carson-Iceberg Roadless Areas in the Toiyabe and Stanislaus National Forests, Alpine and Tuolumne Counties, California. These areas are described in U.S. Forest Service, Wilderness Review, Conference Report on Senate Bill 9, 98th Congress. It was later classified as further planning (RI-98S) and recommended wilderness (C4-986 and C5-986) areas during the Second Roadless Area Review and Evaluation (RARE II) by the U. S. Forest Service, January 1979.

SUMMARY

The Carson-Iceberg Roadless Areas have potential for the occurrence of base and precious metals, molybdenum-tungsten, and uranium. Two areas (A and B) have medium to high potential for the occurrence of epithermal gold-silver vein deposits. Area B also has medium potential for the occurrence of a porphyry molybdenum-tungsten deposit. Area C has low to medium potential for the occurrence of epithermal vein-type gold-silver deposits. Area D has low potential for a pegmatite- or quartz vein-type molybdenum-tungsten deposit.

Areas underlain by the Relief Peak Formation of Slimgums (1966) which is at least partly Triassic in age have low to medium potential for uranium and are considered to be sites of low potential for uranium mineralization.

Low-temperature thermal water (Duffler and Goffatti, 1978, p. 1) flows from springs at the base of Soda Cone in the east-central part of area C4-986, but regional studies appear to indicate low, if any, geothermal potential for the area.

GEOLOGY

Rocks in the study are composed of a Cretaceous plutonic basement terrane, locally containing older metamorphic rocks and overlain by a series of Tertiary volcanic flows, tuffs, and sedimentary rocks.

All of the rock types range and do not as basic far-felsic and tactite-type mineral deposits. Hydrothermal alteration is and outside the roadless areas extends to the surface consists of silicification, argillization, pyritization, and propylitization.

GEOCHEMISTRY

Rock, stream-sediment, and nonmagnetic heavy-mineral-concentrate samples were analyzed for specific elements. These elements were separated into suites (silicates, base- and precious-metal, tungsten-molybdenum) that were then used to determine geochemically anomalous areas and also to characterize the types of areas.

GEOPHYSICS

A gravity map of the area has not been useful in mineral appraisal, because a large regional gravity gradient obscures anomalies that might be related to near-surface features. Magnetic anomalies can be correlated to rock units and structures, including Tertiary volcanic rocks (anomalous low) and young mafic intrusions (magnetic highs).

MINING DISTRICTS AND MINERALIZATION

Table 1 lists resource and workings data for 31 mines, mineral prospects, and mineralized areas in the Carson-Iceberg study area.

ASSESSMENT OF MINERAL RESOURCE POTENTIAL

Evaluation of the mineral resource potential of each area was based on a combination of the following factors: (1) Presence or absence of mines, prospects, or prospects; (2) potential host rocks, such as the silicic volcanic units in area A; (3) hydrothermal alteration; (4) geochemically anomalous amounts of various elements in stream sediments; (5) presence or absence of veins, dikes, or pegmatite bodies; and (6) the (a), (b), or (c) of these—analytical measurements, mine production, and reserves. Areas A and B, for example, have high potential because they contain known claims, lies partly in the Silver Mountain mining district, contains silicic volcanic rocks which serve as host rocks to areas of hydrothermal alteration, contains veins and dikes, shows evidence of silicification, and contains anomalous amounts of several elements. Area A is considered to have medium to high potential for the occurrence of precious-metal epithermal vein deposits. This example is in contrast to area D, which has favorable host rock, limited geochemical anomalies, and favorable structural conditions, but little also, and so is considered to have low potential.

AREA C4-986

Area C4-986 (includes three areas, A, B, and C, favorable for the occurrence of epithermal vein-type gold-silver deposits. Area B is also favorable for the occurrence of a porphyry molybdenum-tungsten deposit. The Relief Peak Formation has potential for the occurrence of uranium in the sedimentary rocks of the lower part of the unit. Although evidence is inconclusive, the presence of uranium in the Relief Peak Formation in other areas indicates little if any potential (Brook and others, 1979; Samuel, 1979; Barnes and others, 1981); low-temperature thermal water (Duffler and Goffatti, 1978) flows from the base of Soda Cone and rocks nearby have been hydrothermally altered.

Area A

In area A, the Mobel Canyon drainage basin contains geochemically anomalous concentrations of silver, copper, lead, and zinc. Area A contains both plutonic and volcanic rocks, including younger silicic volcanic rocks which are strongly favorable host rocks. The fault in Mobel Canyon is favorable for the deposition of hydrothermal solutions. Mineralized areas in this area also contains a zone of intense hydrothermal alteration as indicated by the presence of an iron-barium-strontium-sulfate alteration suite, silicification, argillization, and strong bleaching and pyritization.

The combination of geologic and geochemical features in area A indicates a moderate to high potential for the occurrence of deposits similar to those in the Silver Mountain mining district.

Also just north of C4-986, the Last Sleigh mine (no. 11) has mineral potential. In 1928 and 1934 10 tons (30 t) of ore was produced and contained about 1.0 oz gold per ton (34 g/t). The structure of the Last Sleigh extends into the study area, but samples from within the study area contained subeconomic amounts of gold and silver.

Area B

Area B contains two drainage basins with geochemical anomalies. Silver King Creek drainage basin contains a zone of altered rocks and has a large anomalous silver, lead, antimony, bismuth, zinc, and beryllium. Area B also contains favorable remnant metamorphic rocks, plutonic rocks, and altered areas. Small vein systems are also present. The area includes part of the Silver King mining district (Clark, 1973, p. 85). Moderate to strong silicification and argillic alteration are widespread and are in the area may be associated with a porphyry molybdenum-tungsten system.

At Mineral Mountain (no. 39), deposits containing silver, lead, zinc, and copper were mined between 1860 and 1880. Ore is up to 4 oz silver per ton (100 g/t), 1.0 percent lead, 0.5 percent zinc, and 0.5 percent copper (Clark, 1973) in some samples of ochiai. The ochiai layer is 1 to 4 ft (0.3 m) thick, but its length is unknown.

The Hilltop mine (no. 44), on the east edge of area B, has indicated and inferred reserves of 40,000 short tons (36,000 t) containing 0.5 oz gold per ton (16 g/t). (Oct. 1982 prices; the Hilltop deposit probably could not be economically developed unless mined in conjunction with another nearby deposit, such as the Leg Cabin (Jones) mine (no. 34), where economy of scale could be realized. The Leg Cabin mine contains 900,000 tons (800,000 t) of indicated submarginal reserves with 0.1 to 0.4 oz gold per ton (3.4 to 13.7 g/t).

Area C

Area C contains anomalous amounts of copper, lead, silver, antimony, and arsenic. The rock types are favorable only in that quartz veins can occur in any type of rock. The lack of anomalous amounts of other elements, more favorable rock types, or large number of prospects, suggests that area C has little possibility of hosting a metalliferous ore deposit.

AREA C5-986

The Bull Run No. 1 claim in C5-986 has tungsten resources, although there are no associated geochemical anomalies. The deposit contains 5,000 tons (4,000 t) of indicated subeconomic resources averaging 0.46 percent tungsten trioxide (WO_3) and 0.2-0.27 oz gold per ton (7-17 g/t). Additional resources may be present.

Area A in C5-986 would be favorable for the occurrence of a mineral deposit. Other parts of C5-986 have known prospects and geochemical anomalies but lack the combination of factors needed to make them favorable.

Most of the Relief Peak Formation has minor potential for the occurrence of uranium in the sedimentary rocks in the lower part of the formation. Although evidence is inconclusive, the presence of uranium in the Relief Peak Formation in other areas indicates little if any potential for this area.

Area A in C5-986 is a geologic extension of area A in C4-986 and lies in the same northeast-trending zone of alteration. The Highland Lakes drainage contains geochemically anomalous concentrations of silver, copper, lead, zinc, iron, and barium. The rocks within about a mile (1.6 km) of Highland Lakes have been argillized and silicified in shears and stockworks. Three short adits and at least 12 shallow pits and trenches have been dug (no. 21). Of 31 samples, one contained 3.1 oz silver per ton (106 g/t) and two contained 0.1 and 0.3 percent copper. The anomalous sample assays suggest that the Highland Lakes vicinity has potential for at least low-grade deposits of copper and silver.

Iceberg Peak (no. 28), farther south, contains anomalous concentrations of silver, copper, cadmium, molybdenum, barium, and strontium. At least 20 pits, trenches, and possible caved adits were dug in an area about one-half mi (0.8 km) across. Of 23 samples, 1 contained 0.2 oz gold per ton (7 g/t), 2 contained 0.1 oz gold per ton (3.4 g/t), and 3 contained 0.1 oz silver per ton (3 g/t). Six selected samples contained 0.13 to 1.3 percent copper. Grooks in Hiram Canyon, west of Iceberg Peak, contained trace amounts of placer gold. Samples with anomalous concentrations of copper and silver in area A in C5-986 and in the Iceberg Peak area indicate has potential for large, low-grade gold, silver, and copper deposits. The Mobel Canyon fault, in C4-986, could possibly extend into the Highland Lakes and Iceberg Peak vicinities and would thus act as a supporting structure or control for the formation of metallliferous deposits. These factors indicate a medium to high potential for the occurrence of silver and copper deposits and that area A has medium to high potential for the occurrence of similar mineral deposits.

Area B5-986 North

Area D has low potential for the occurrence of a pegmatite- or quartz vein-type molybdenum-tungsten deposit. Altered, mineralized rocks containing anomalous copper and silver near Highland Lakes extend into B5-986 North from area A in C5-986.

The sedimentary rocks of the lower part of the Relief Peak Formation have minor potential for uranium; as mentioned previously, a sample of carbonized wood from near the base of volcanic cap rock between B5-986 North and C4-986 contained 0.92 percent U_3O_8.

Area B5-986 South

Area B5-986 South has minor potential for uranium in the sedimentary rocks of the lower part of the Relief Peak Formation. Traces of placer gold were found along Highland Creek.

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Table 1.—Mines, prospects, and mineralized areas in and near the Carson-Iceberg Roadless Areas
[References are underlined deposits unless otherwise specified]

Map number	Name	Summary	Workings and production	Resources and sample data
1	Silver Mountain placers	Recent and bench gravels along Silver Creek.	None.	Six pan samples; two contained a very small gold flake each.
2	Eureka	Altered, nearly vertical limonite-stained zone in granitic rock, trends N. 3° E. through volcanic rocks.	One pit 3 by 5 by 5 ft (1.0 by 1.5 by 1.5 m).	No economically significant assays from one sample.
3	Washington	Intensely altered shear zone in basaltic and andesitic rock strikes N. to N. 20° E. and dip 70° SE. to vertically.	An adit with 590 ft (180 m) of crosscuts and 980 ft (300 m) of drift along the mineralized zone. A 3-ft (1-m) shaft to a lower level; the shaft and drift raise to an upper level were inaccessible.	Thirteen samples; one assayed 0.8 oz silver per ton (27 g/t) and one assayed 1.4 oz silver per ton (48 g/t).
4	Unknown	Gray to green tuffaceous volcanic rocks obscured by talus.	Two possible pits or caved adits.	No samples.
5	Hippen Gulch	Altered, siliceous, sheared volcanic rocks contain as much as 5 percent pyrite. The mineralized zone are as thick as 100 ft (30 m) but are discontinuous. The zone trends N. 20°-40° W. and dips 70-80° E. Three short adits and at least 12 pits and caved areas. These small pits 30-80 ft (9-24 m) across and up to 5 ft (1.5 m) deep.	None.	Nine samples; average silver content was 1.0 oz per ton (34 g/t). One sample assayed 0.1 oz gold per ton (3.4 g/t), one had 0.03 oz gold per ton (1 g/t), and three had a trace of gold.
6	Red Wing	Altered tuffaceous breccia containing some silica. The altered zone contains as much as 5 percent pyrite.	One small caved adit.	Four samples; no economically significant assays.
7	Unknown	An altered shear zone in tuffaceous volcanics.	Possible trenches or caved adits.	Four samples; one contained 0.01 oz gold per ton (0.34 g/t).
8	Mountain Gold and Silver (potential)	Steeply dipping, lenticular, silicified zone in andesite and basalt shown granitic rocks.	An adit reportedly 400 ft (120 m) long was see (found) a caved adit was probably at least 1,800 ft (550 m) long.	An sample; a select sample of quartz and one of granitic rock contained, respectively, 0.1 oz gold per ton (3.4 g/t) and 4.0 oz silver per ton (137 g/t). Another sample contained at least 0.01 oz gold per ton (0.34 g/t) and 0.1 oz silver per ton (3 g/t).
9	Needle Rock	Steeply dipping shear zones, some with altered dikes to 2 ft (0.6 m) thick. Zones are in granitic and volcanic rock. The zone trends N. 30° W.	None.	Three samples; two contained 0.4 and 0.7 oz silver per ton (0.14 and 7.0 g/t).
10	Nobel Creek Campground intrusion	Altered, limonite-stained, silicified granitic rock.	One pit 3 ft (1.0 m) wide by 15 ft (4.6 m) long by 2 ft (0.6 m) deep.	Four samples; one contained 9.3 oz silver per ton (320 g/t) the other three contained less than 0.3 oz silver per ton (10 g/t).
11	Last Sleigh (Nobel) (potential)	Altered shear zones in granitic rock.	A caved, water-filled shaft, 3 by 5 ft (0.9 m) pits and trenches. Reportedly underground workings extend 300 ft (91.5 m). These zone (12.7 t) of ore produced in 1928 and 1934 contained 1.0 oz gold per ton (34 g/t) and 0.2 oz silver. In 1934 the Last Sleigh also reportedly produced 30 tons (27 t) containing 28 oz gold (902 g) and 42 oz silver (1,305 g).	Four exposures; possible high-grade gold-silver vein system from the dump of the Last Sleigh shaft contained 0.1 oz gold per ton (3.4 g/t) per ton (114, 1), and 0.2 g/t. Surface samples along the Last Sleigh contained trace and within the study area contained no economically significant assays.
12	Nobel Creek placers	Recent and bench gravels.	None.	Six pan samples; no gold was detected.
13	Dora	A 3-ft (1.0-m)-thick, 200-ft (61-m)-long lenticular rhyolite dike in granitic rock strikes northwest and dips near vertical.	None.	Two samples; one from the dike contained 0.01 oz gold per ton (0.34 g/t) and the other from a nearby quartz stockwork containing shear in the granitic rocks, contained traces of gold and silver.
14	Young America	Altered granitic rocks.	One pit 20 ft long, 3 ft wide, and 3 ft deep (13 by 1.0 by 0.9 m).	One sample assayed 0.01 oz gold per ton (0.34 g/t) and 0.8 oz silver per ton (27 g/t).
15	Big Pine	Limonite-stained granitic rock with quartzite dike 2 ft (0.6 m) wide. The dike trends N. 15° E. and dips 80° W.	One pit 3 ft (.9m) 3 ft wide, and 3 ft deep (1.0 by 1.0 by 0.9 m).	Two samples; one contained 0.1 oz gold per ton (3.4 g/t).
16	Tuplas (?)	Altered rhyolitic rocks with siliceous veins to 4 in. (10 cm) thick.	A caved adit.	One sample; no economically significant assays.
17	Lucky Mary (?)	An altered zone 3-10 ft (1.0-3 m) thick in granitic rocks trends N. 80° W. and dips 80° NW. It contains 5-10 percent pyrite. An slanted dike nearby is about two times more resistative than surrounding rocks.	One pit 3 ft long, 3 ft wide, and 3 ft deep (1.0 by 1.0 by 0.6 m).	Two samples; one contained 0.1 oz gold per ton (3.4 g/t) and 0.002 percent uranium oxide (U_3O_8). The other sample contained a trace of gold.
18	Alamoza	An altered, slightly sheared, silicified rhyolite dike in granitic rocks. The dike is 3 ft (0.9 m) in maximum width, is about 200 ft (61 m) thick, and extends 1,500 ft (460 m). Stockwork and shear zones are contained in the dike and adjacent granitic rocks. The dike is composed of quartz, sericite, and adularia, with up to 10 percent sulfide minerals.	A trench about 40 ft (12 m) long, 20 ft (6 m) wide, and 10 ft (3 m) deep; a number of trenches, short caved adits, and one adit 15 ft (4.6 m) long.	Nine samples from and near the dike; no economically significant assays.
19	Sonanos	Five percent or more disseminated pyrite in argillized volcanic rock member.	None.	Five samples; no economically significant assays.
20	Tryon Peak	Volcanic rocks capping granitic rocks.	None.	Radioactivity was two to three times background around the summit of Tryon Peak.
21	Highland Lakes	Granitic rocks are capped by andesite and basalt. These extrusive rocks are altered, particularly along shears and dikes. The zones contain as much as 20 percent pyrite and disseminated stringers of quartz. Some calcareous woody fragments occur at the volcanic rock-granitic rock contact.	Thirty-seven shallow pits and trenches; one 15-ft (4.6 m) adit, one adit caved at the portal, and one adit caved 100 ft (30 m) from the portal.	Thirty-three rock samples; 23 contained a trace of gold; two contained 0.01 oz gold per ton (0.34 g/t); one contained 0.1 oz silver per ton (3.4 g/t); two contained 0.1 percent copper; and one contained 0.1 percent molybdenum. Of four Highland Lake contained 0.92 percent U_3O_8 and 0.09 percent copper, and 0.011 percent zinc.
22	Mokelumne River placers	Recent and bench gravels.	None.	Four pan samples; no detectable gold.
23	LaGobata	Granitic rocks with altered zones which trend east and are 10-50 ft (3-15 m) thick.	None.	Two samples; no economically significant assays.
24	Grouse Creek placers	Recent and bench gravels.	None.	Two pan samples; no detectable gold.
25	Pacific Creek placers	Several feet of alluvium overlying granitic rocks.	None.	Four pan samples; no detectable gold.
26	North Fork Mokelumne River placers	This here of gravel.	None.	Three pan samples; no detectable gold.
27	Bull Run No. 1	Tactite and marble in granitic rocks.	None.	Estimated 9,000 tons (8,000 t) containing 0.46 percent WO_3 (tungsten trioxide) 0.27 oz gold per ton (9.3 g/t) and 0.2 oz silver per ton (6.8 g/t).
28	Iceberg Peak	Granitic rocks capped by andesite and basalt. Altered rhyolite in the volcanic rocks contains pyrite, stauropolite, and traces of disseminated sulfides. Some of the minerals approaches 30 percent in intensely mineralized zones but generally are less than 5 percent except the concentrating rock is very localized.	At least 20 caved pits, trenches, and possible adits.	Twenty-three samples; sixteen contained traces of gold; one contained 0.03 oz gold per ton (1.0 g/t); one contained a trace to 1.0 oz silver per ton (34 g/t). Six selected samples contained 0.13 percent copper the concentrating rock is very localized.
29	Highland Creek basin placers	Recent and bench gravel with wide alluvial plains.	Three small trenches on creek in Mizen Canyon.	Thirty-five pan samples; two from creek in Mizen Canyon contained one and six very small gold flakes; another from Eureka Valley contained one small gold flake; the remaining 16 contained no detectable gold.
30	Wheats Meadow	Granitic rocks overlain by volcanic rocks and intruded by pegmatite dikes.	None.	Three samples; no economically significant assays.
31	Clark and Middle Forks Mokelumne River placers	Alluvial benches and recent gravel.	None.	Eighteen pan samples; one from Clark Fork contained a very small gold flakes; another from Eureka Valley contained one small gold flake; the remaining 16 contained no detectable gold.
32	Relief Peak group	Volcanic rocks grading from andesite to basalt (mainly flows, dikes, and sills containing some glass) overlie granitic rocks.	None.	Slight radioactivity top to five times background, especially associated with carbonized wood and contact zone above granitic rocks.
33	G group	Limonite-stained zone 50 ft (15 m) wide and 100 ft (46 m) long in andesite and basalt.	None.	Radioactivity was slightly above background. A sample contained 0.003 percent uranium oxide (U_3O_8).
34	Leg Cabin (Jones) mine	Altered shear zones in metavolcanic rocks.	Six adits (five caved at portals) and at least 13 small pits and trenches.	Estimated 900,000 tons (800,000 t) containing 0.1-0.4 oz gold per ton (3.4-13.7 g/t).
35	East Fork Carson River placers	Recent and bench gravels.	None.	Fourteen pan samples; two, downstream from the Dipsea Mine contained one and three very small gold flakes; the remaining 12 contained no gold.
36	Mapie	Volcanic rocks overlie porphyritic granitic rocks, which contain at least 10 percent quartz, with joint fillings of jasper.	None.	Five samples; no significant metal content was detected.
37	Wolf Creek placers	Thick alluvial deposits.	None.	Seven pan samples; no detectable gold.
38	Unknown	Granitic rocks and porphyritic grey metavolcanic rocks.	One short caved adit.	One sample; contained 0.1 oz silver per ton (3.4 g/t) and a trace of gold.
39	Mineral Mountain	Altered zones in metavolcanic, metasedimentary, and granitic rocks. Silicification and argillization are concentrated along planes in metasedimentary rocks.	Eleven workings including pits, trenches, and caved adits. The workings are as deep as more than 300 ft (115 m) long.	Potential gold, silver, copper, lead, and zinc resources are contained in overburden. Mineralized ochiata may be 10 ft (3 m) thick and the ochiata layer contained up to 0.4 oz silver per ton (240 g/t), 3.0 percent lead, 0.4 percent zinc, and 0.4 percent copper.
40	Silver King Creek placers	Recent, bench, and alluvial-terrace gravels along Silver King Creek. Alluvial fans along ridge crests were sampled.	A few shallow pits.	Forty-seven samples; one from the Silver King Creek fan contained 0.06 oz gold.
41	Soda Cone	A tuff-breccia cone 40 ft (12 m) high with a base 100 ft (30 m) by 300 ft (91 m). The cone is one of many similar cones in the Soda Springs area. A pool at its top contained cold effervescent water; warm springs occur at its base.	None.	One sample of the cone; contained 0.06 percent manganese, 0.013 percent zinc, and 0.3 percent aluminum.
42	Unknown	Hipsesine zone with granitic rocks and altered rhyolite contains as much as 5 percent pyrite.	One trench 10 ft wide, 100 ft (30 m) long, and 3 ft deep (3 by 30 by 0.9 m).	One sample; no economically significant assays.
43	Unknown	A quartz and biotite schist zone as much as 3 ft (0.9 m) thick and at least 130 ft (40 m) long in metasedimentary and volcanic rocks.	One small pit.	One sample; 2.4 oz silver per ton (82 g/t), 0.01 oz gold per ton (0.69 g/t), and 0.85 percent copper.
44	Hilltop	Quartz veins and altered, silicified shear zones in granitic rocks.	Three inclined shafts and eight small pits and trenches.	An estimated 720,000 tons (100,000 t) containing about 0.17 oz gold per ton (5.8 g/t).
45	Buffington Flat	Metasedimentary rocks containing quartzose bands 6 ft (1.8 m) thick. These bands trend N. 23° W. and dip nearly vertical.	Three small pits 30-50 ft (9-15 m) across and, at most, 3 ft (0.9 m) deep.	Two samples; no economically significant assays.
46	Unknown	Limonite-stained granitic and metavolcanic rocks.	One pit 15 ft (4.6 m) long, 5 ft (1.5 m) wide, and 4 ft (1.2 m) deep.	One sample; no economically significant assays.
47	Unknown	Marble bed 300 ft (150 m) thick and 1,200 ft (360 m) long in metasedimentary and granitic rocks; capped by volcanic rocks. The marble trends N. 45° E. and dips vertically.	None.	One sample indicated no economic minerals.
48	Corral Creek	Pegmatite lenses 6-24 in. (15-61 cm) thick in granitic rocks.	None.	One sample indicated no economic minerals.
49	Whitehillf	Granitic rocks capped by volcanic rocks.	None.	Radioactivity more than four times background, mainly in the volcanic rocks.
50	Wolf Creek Lake	Limonite-stained quartz containing as much as 10 percent hematite.	One trench 10 ft long, 3 ft wide, and 2 ft deep (3 by 1 by 0.6 m).	Two samples; no significant metal content was reported. U_3O_8 by 0.4 m).
51	Summit placer	Silty sands and gravels overlie volcanic rocks.	None.	Two pan samples; no detectable gold.

Explanatory pamphlet accompanies map
Denver—Geological Survey, Reston, Va.—1983
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