OREGON STATE UNIVERSITY, CORVALLIS

LD4330
1982
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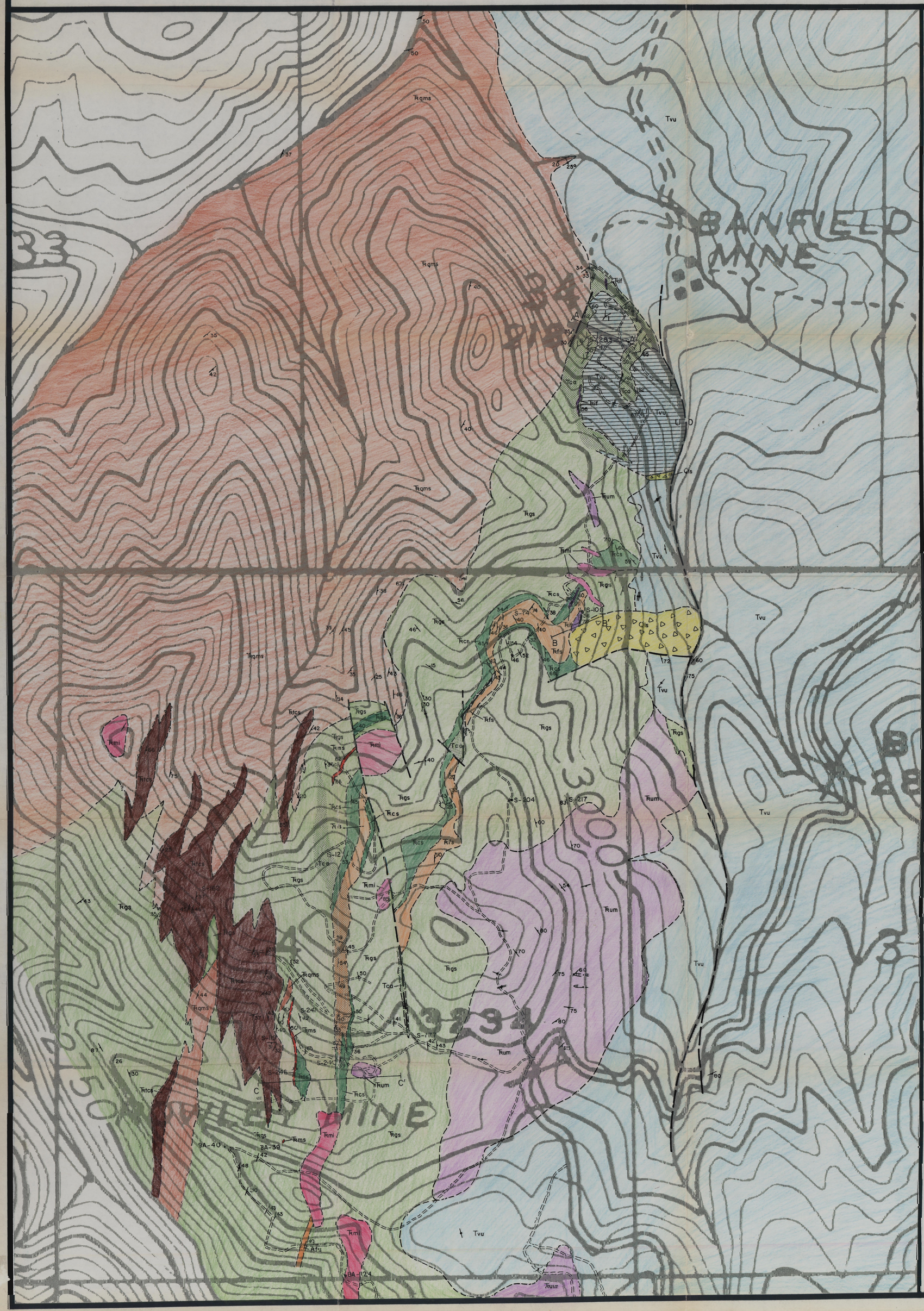
PLATE 1

GEOLOGY OF THE BANFIELD AND ROWLEY DEPOSITS, DOUGLAS COUNTY, OREGON



LEGEND

Quaternary

Qls — Landslide deposits: Older deposit supports mature timber whereas the younger deposit is characterized by a headwall scarp

Tertiary

Tca — Carbonate alteration: Carbonate-chalcedony veins and pervasive wall rock alteration to carbonate-kaolinite± chalcedony as a result of post-Eocene hot springs activity; stippled and ruled patterns denote altered metamorphics and Tertiary volcanics, respectively

Tvu — Volcanic rocks undifferentiated: Includes basaltic to andesitic conglomerate and rhyodacitic(?) welded ashflow tuff of the Little Butte Volcanic Series, and mafic and felsite dikes of uncertain affinity

Triassic

Intrusive Rocks

Ꞧum — Serpentinized peridotite: Typified by blocky outcrops and float of greenish black to black, massive, magnetic rock; complexly intermixed with greenschist possibly as consequence of tectonic emplacement and folding; contains local zones of talc alteration and sulfide-bearing veins

Ꞧmi — Mafic intrusion: Plugs and sills of basaltic composition; distinguished from greenschists by a nonfoliated, medium-grained texture and large lath-shaped amphiboles;

Metavolcanics and Metasediments

Ꞧqms — Quartz-mica schist: Dark gray, fine-grained schist and phyllite derived from carbonaceous, quartz siltstones; commonly contains bull quartz pods, and cleavage surfaces that display crenulations or a lineation; relict bedding is expressed by subtle color changes which represent variations in graphite content and the proportion of biotite to white mica

Ꞧcs — Tremolite-clinozoisite schist: buff colored limonitically stained, variably banded rock derived from tuffs and tuffaceous sediments of mafic composition; generally interbedded with quartz-mica schist

Ꞧgs — Greenschist with minor greenstone: weakly banded, punky schist with chlorite porphyroblasts and actinolite needles evident on cleavage surfaces; may contain felsic segregation laminae and relict plagioclase feldspar xenocrysts; the unit is derived from tuffs and tuffaceous sediments of basaltic composition; greenstones (basaltic flows) are massive, nonfoliated and occasionally blastioporphyritic

Ꞧms — Massive sulfide: Massive faintly banded, gossan of goethite which was produced by the oxidation of massive, pyrite-sphalerite-chalcopyrite lenses; one outcrop in a streambed at the Rowley prospect is composed of partially weathered sulfide

Ꞧif — Iron formation: Massive to well-banded, lenses and pods of magnetite iron formation with minor sulfide blebs and disseminations; banding is the result of alternating concentrations of quartz and chlorite; spatially associated with chlorite schist and felsic schist

Ꞧcs — Chlorite schist: Medium-grained, dark green schist, composed of chlorite, quartz, and minor sulfide stringers and blebs; this lithology is contemporaneous with the felsic schist and represents altered tuffaceous rocks of mafic composition; it commonly expresses crenulation folds

Ꞧfs — Felsic schist: Typified by interspersed chloritic and felsic augen or discontinuous bands; minor sporadic sulfide blebs, multiple foliations, boudinaged quartz bands, and small shears are locally evident; the rock is interpreted to be an altered tuff and lapilli tuff of intermediate to felsic composition;

Map Symbols

Inferred contact

U D — Fault inferred from one or more of the following: disrupted stratigraphic units, carbonate alteration, variations in electromagnetic induced polarization responses, and topographic features

Shear zones observed in outcrop

57 10 — Strike and dip of foliation showing direction and plunge of lineation or crenulation fold axes

75 — Strike and dip of joint

80 — Strike and dip of vein or subparallel veinlets

Adit with dump

Prospect pit

Unimproved road

• S-24, S-35 — Location of sample for which major oxide chemistry was determined

A A' — Location of geologic section

Scale 1:4800

400 0 400 800 feet

C.I. 50 feet

GN MN

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