



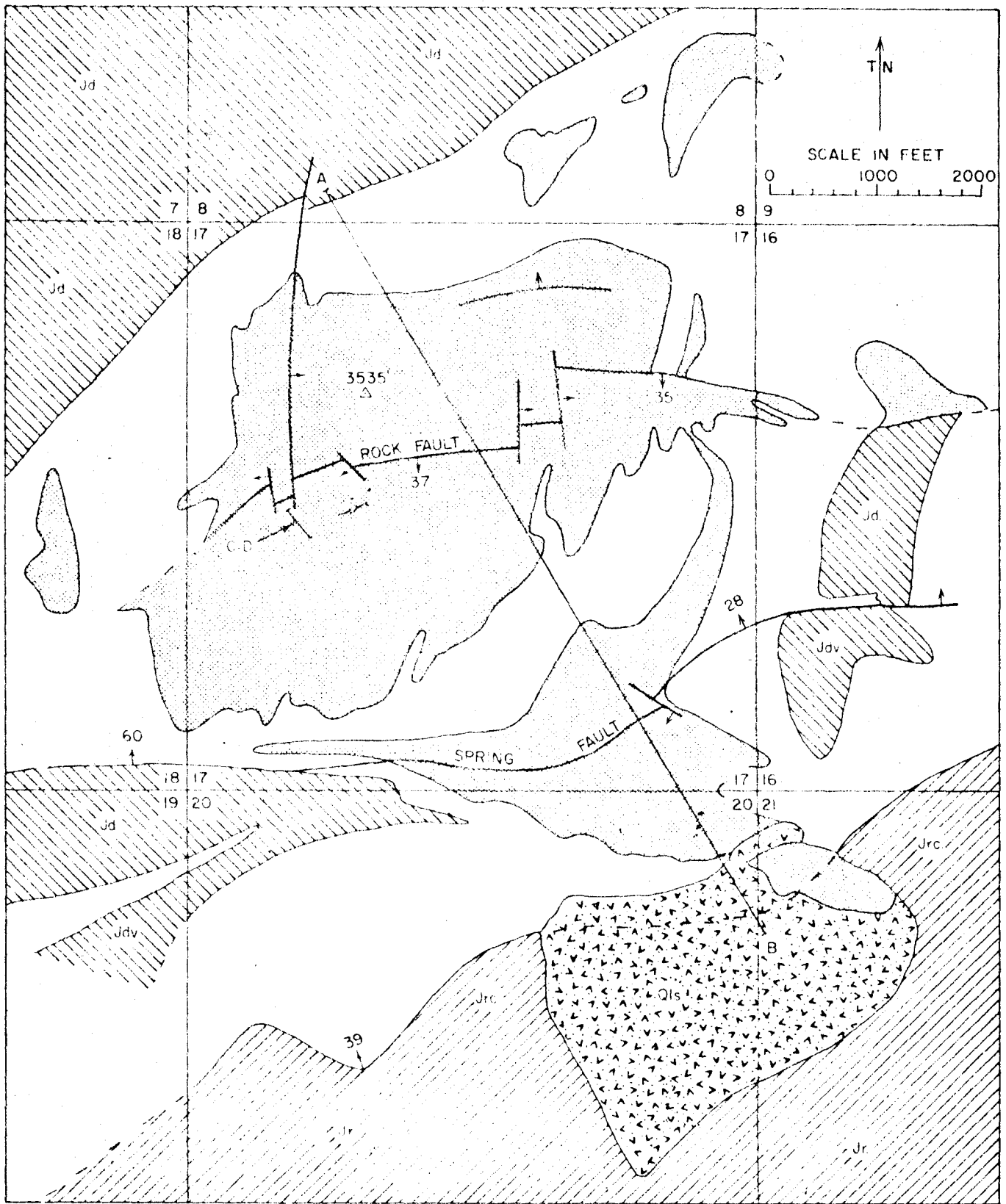









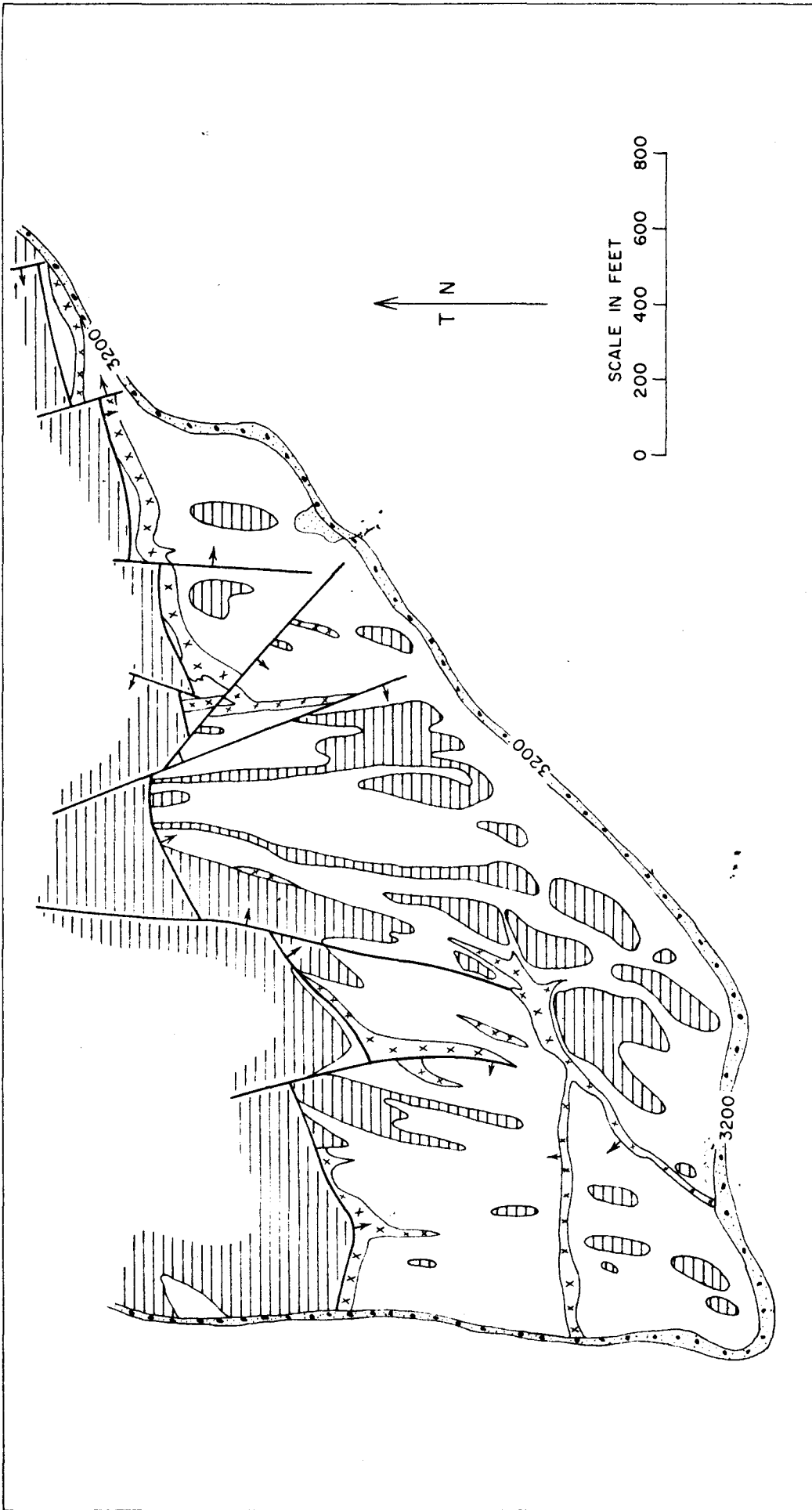
EXPLANATION

-  TERTIARY AND QUATERNARY SEDIMENTS
-  TERTIARY AND QUATERNARY VOLCANICS AND PYROCLASTICS
-  PRE-TERTIARY ROCKS OF KLAMATH MOUNTAINS
-  JURASSIC ULTRAMAFIC INTRUSIVES






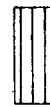


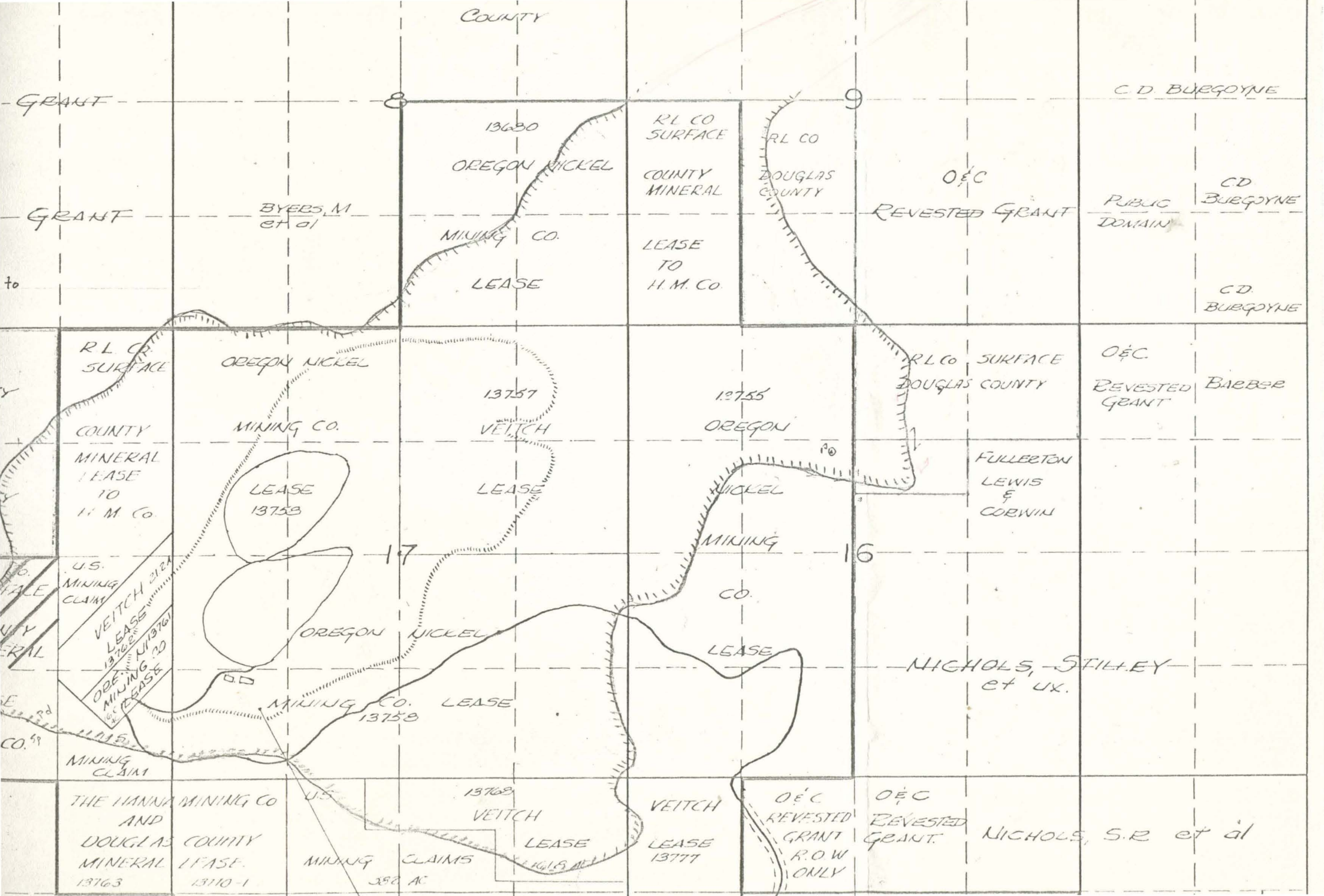
EXPLANATION

- | | | | |
|---|----------------------------------|--|----------------------|
|  | Qls. QUATERNARY LANDSLIDE DEBRIS |  | RED SOIL >5 FEET |
|  | Jr RIDDLE FORMATION |  | ULTRAMAFIC INTRUSION |
|  | Jrc. CONGLOMERATE | | |
|  | Jd DOTHAN FORMATION | | |
|  | Jdv VOLCANICS | | |



EXPLANATION

- | | | | | | |
|---|----------------|---|--------------------|---|-------------------|
|  | BOXWORK |  | YELLOW SOIL |  | SAPROLITE |
|  | FAULT |  | RED SOIL |  | PERIDOTITE |



COUNTY

GRANT

GRANT

C. D. BURGONYE

13630

OREGON NICKEL

RL CO SURFACE

RL CO

COUNTY MINERAL

DOUGLAS COUNTY

O&C

REVESTED GRANT

PUBLIC DOMAIN

CD BURGONYE

BYERS, M et al

MINING CO.

LEASE TO H.M. CO.

LEASE

CD BURGONYE

RL CO SURFACE

OREGON NICKEL

13757

13755

COUNTY MINERAL LEASE TO H.M. CO.

MINING CO.

VEITCH

OREGON

RL CO SURFACE DOUGLAS COUNTY

O&C REVESTED GRANT BARBER

LEASE 13753

LEASE

FULLERTON LEWIS & COBWIN

U.S. MINING CLAIM VEITCH LEASE 13762 MINING CO. LEASE 13761

17

16

OREGON NICKEL

NICKEL MINING CO.

NICHOLS, STILLEY et ux.

MINING CO. LEASE 13759

LEASE

MINING CLAIM

THE HANNA MINING CO AND DOUGLAS COUNTY MINERAL LEASE. 13763 13710-1

U.S. MINING CLAIMS 350 AC

13768

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VEITCH

O&C REVESTED GRANT R.O.W ONLY

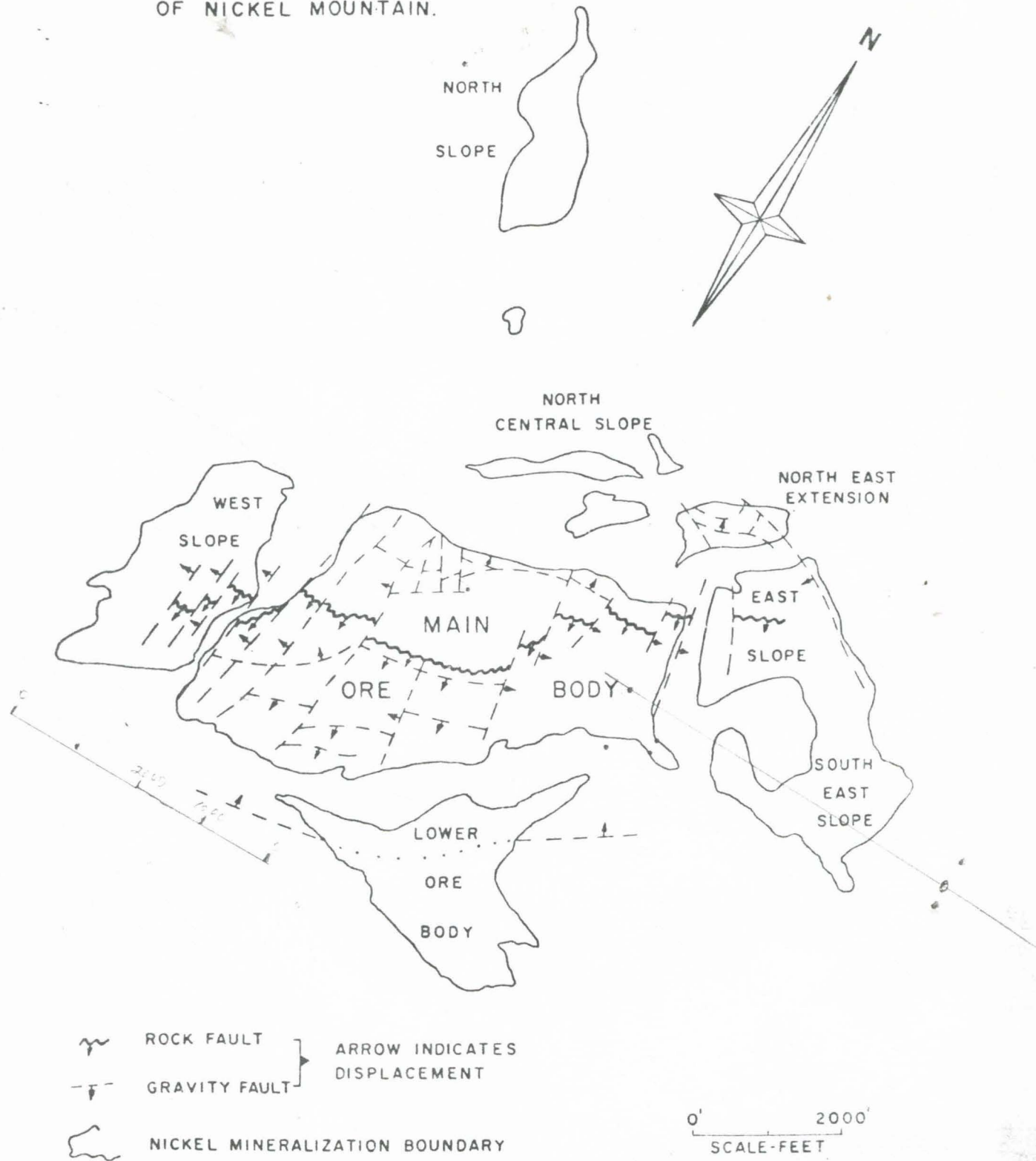
O&C REVESTED GRANT.

NICHOLS, S.R et al

LEASE

LEASE 13777

FIG. 1. DISTRIBUTION OF FAULTS AND MINERALIZATION OF NICKEL MOUNTAIN.





- Teu Umpqua fm. (Eocene)
- Ku Undivided seds. (Cretaceous)
- Jk Knoxville fm. (Jurassic)
- Jd Dothan fm. (Jurassic)
- Dike rocks (Jura-Cretaceous)
- sp. Serpentine (Jura-Cretaceous)
- Jv Meta-volcanics (Jurassic)
- Inferred contact
- Shear zone
- Drainage divide
- Strike & dip of beds
- Strike & dip of schistosity
- Fault (showing down-thrown side)

Reconnaissance Geology of secs. 18, 19, 30, & 31, T.30S., R.6 W. & secs. 13, 24, 25, 26, 35, & 36, T.30S., R.7 W., Douglas County, Oregon.

Accompanying report by: Hollis M. Dole & David J. White

Scale: 1" = approx. 1470'

Base from aerial photographs



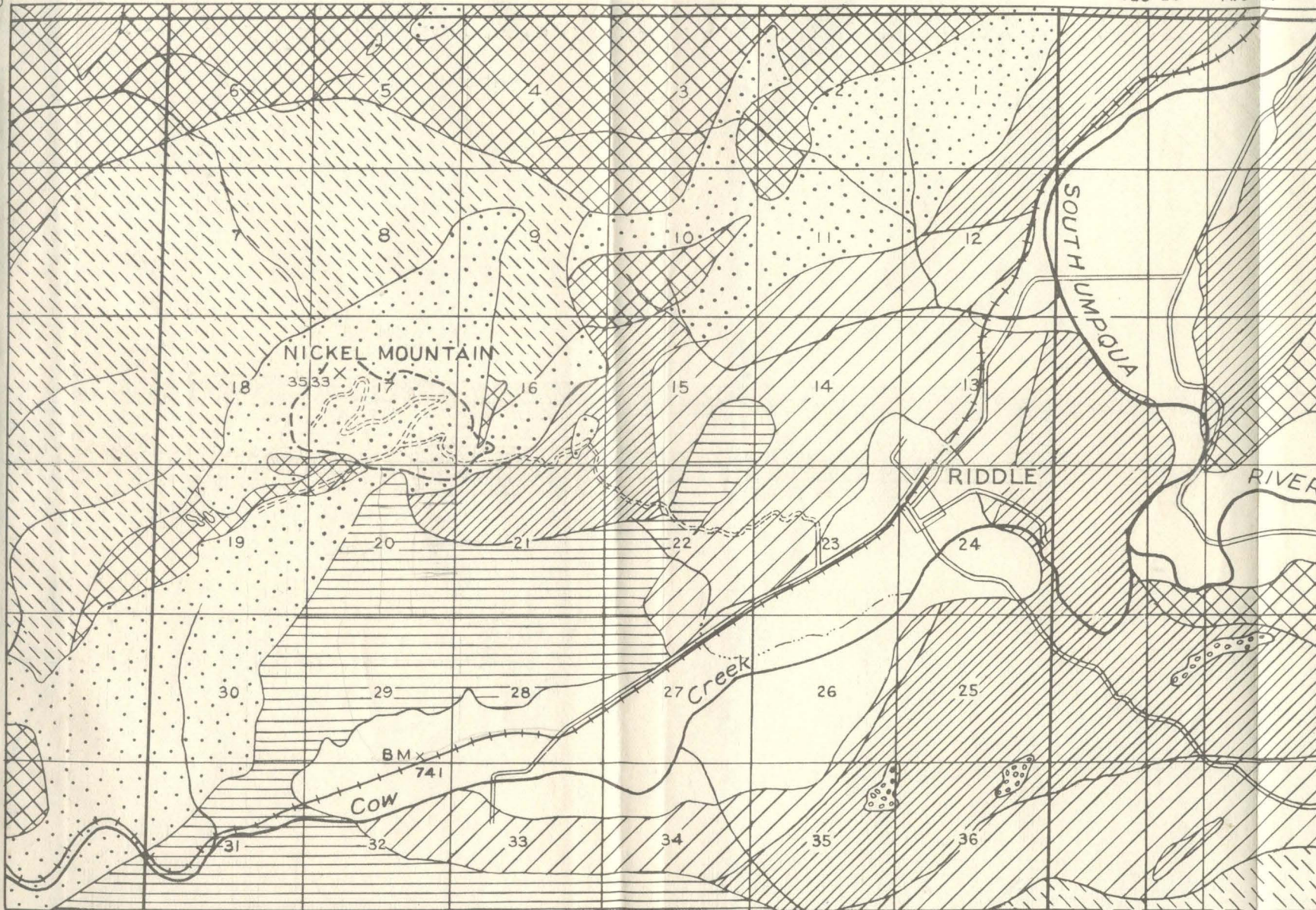
R. 7 W.

R. 6 W.

123° 20'

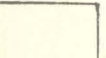
R. 5 W.

43° 00'



EXPLANATION

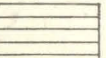
SEDIMENTARY ROCK



Alluvium



High terrace gravels



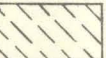
Umpqua formation
(Sandstone and shale)
UNCONFORMITY



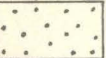
Horsetown formation
(Shale)
UNCONFORMITY



Knoxville formation
(Sandstone and shale)
UNCONFORMITY



Dothan formation
(Sandstone)
IGNEOUS ROCKS



Serpentine and peridotite



Greenstone, gabbro and related rocks



Boundary of area mapped in detail



Geology modified from Diller and Kay,
Folio 218, Riddle, Oregon

GEOLOGIC MAP OF THE VICINITY OF NICKEL MOUNTAIN, DOUGLAS COUNTY, OREGON

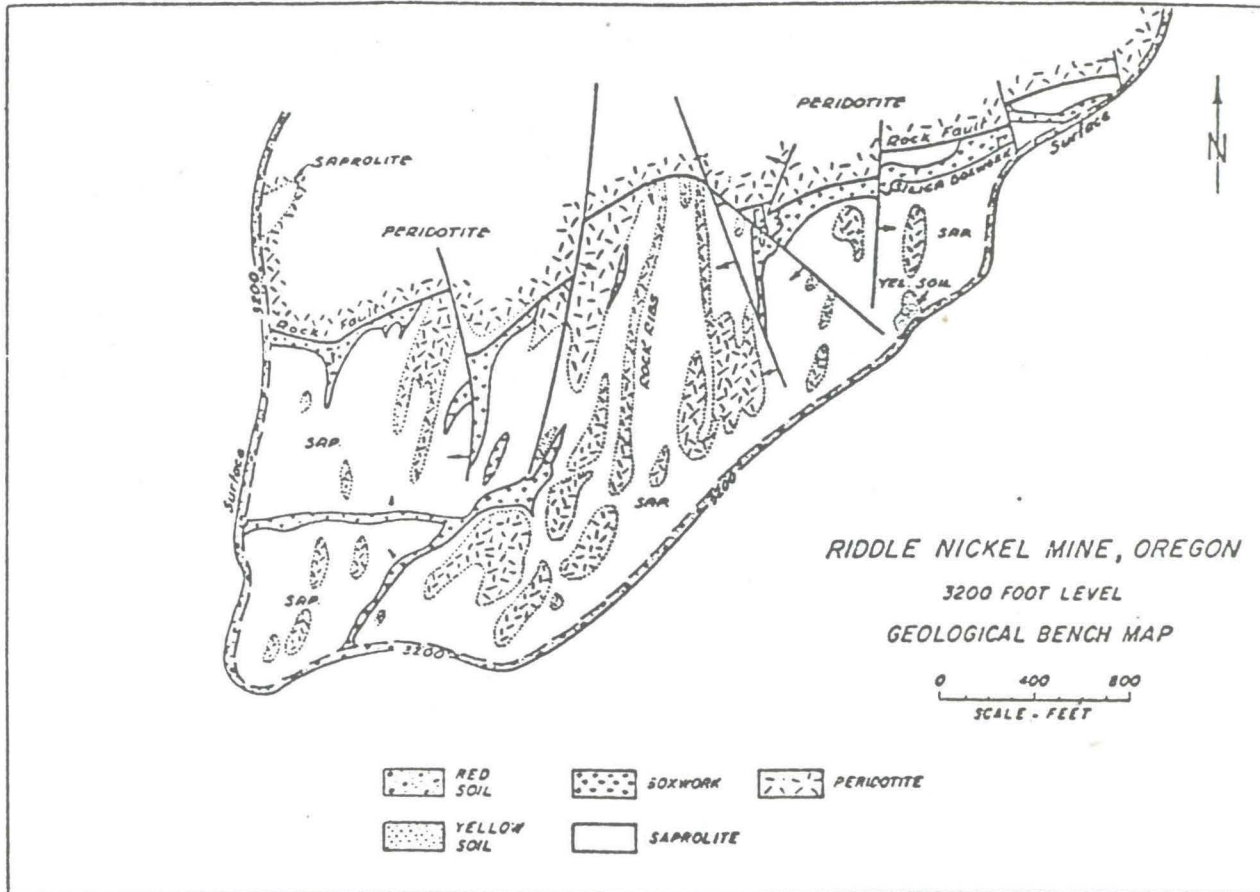


FIG. 2. Geological map, 3,200-foot level.

According to nickel grade would group together ores that otherwise are quite dissimilar. Instead of nickel content, differences in texture and structure are used to subdivide the ore into three main groups, soil, saprolite, and boxwork with six subordinate ore types. These are illustrated on the columnar section, Figure 1.

The distinction between soil and saprolite is based on the presence or absence of joint planes, the characteristics of residual rock boulders, and the granularity of interstitial decomposed material. The soil group is subdivided on the basis of color, while the saprolites are further subdivided according to the quality and quantity of parent rock present, particularly its hardness and freshness. The term "saprolite" is used in its original sense, as defined by Becker (1895) to describe a rock that has been decomposed chemically but has not been transported and which preserves the original textures and structures of the parent rock. The term also serves to distinguish the high magnesia-low iron material preserved on Nickel Mountain from typical low magnesia-high iron laterite which is not present but is commonly associated

with nickel-silicate deposits elsewhere. Boxwork is quite distinctive, as it occurs in veins and is composed of chalcedony with several hydrous nickel-magnesia silicates, predominantly of the garnierite group.

Soils.—Red and yellow soils form an unconformable surface mantle overlying the saprolitic ore. The soils are composed of loose pulverulent aggregates of hydrous iron oxides and clay containing scattered boulders of fresh peridotite. The high proportion of hydrous iron oxides in the soil is indicated by high iron analyses. The boulders in the soil are mostly rounded or subangular and are surprisingly fresh except for a thin, rusty skin of decomposed rock. The red and yellow soils simply indicate the oxidized state of the iron oxides and are readily distinguished by color. Nickel content of the soils averages 1.5 percent, but locally may range up to 1.7 percent.

The soils account for about 20 percent of the ore reserve. The thickness averages 10 feet, but may be virtually absent or up to 40 feet thick. Soils over serpentinite are brown in color, rather than red or yellow, and normally have a lower nickel content than red soil. Scattered fragments of boxwork ore are found in the soil.

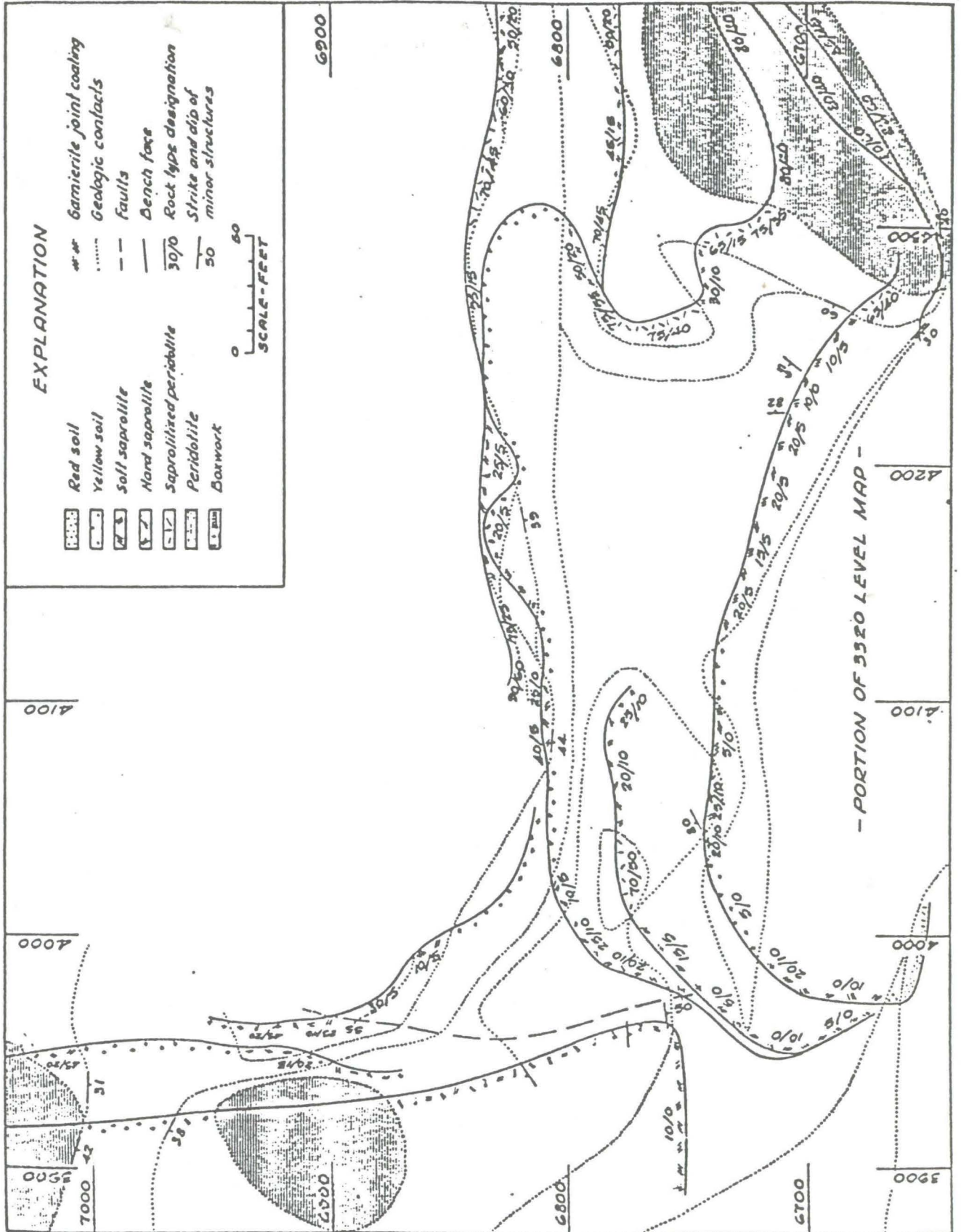
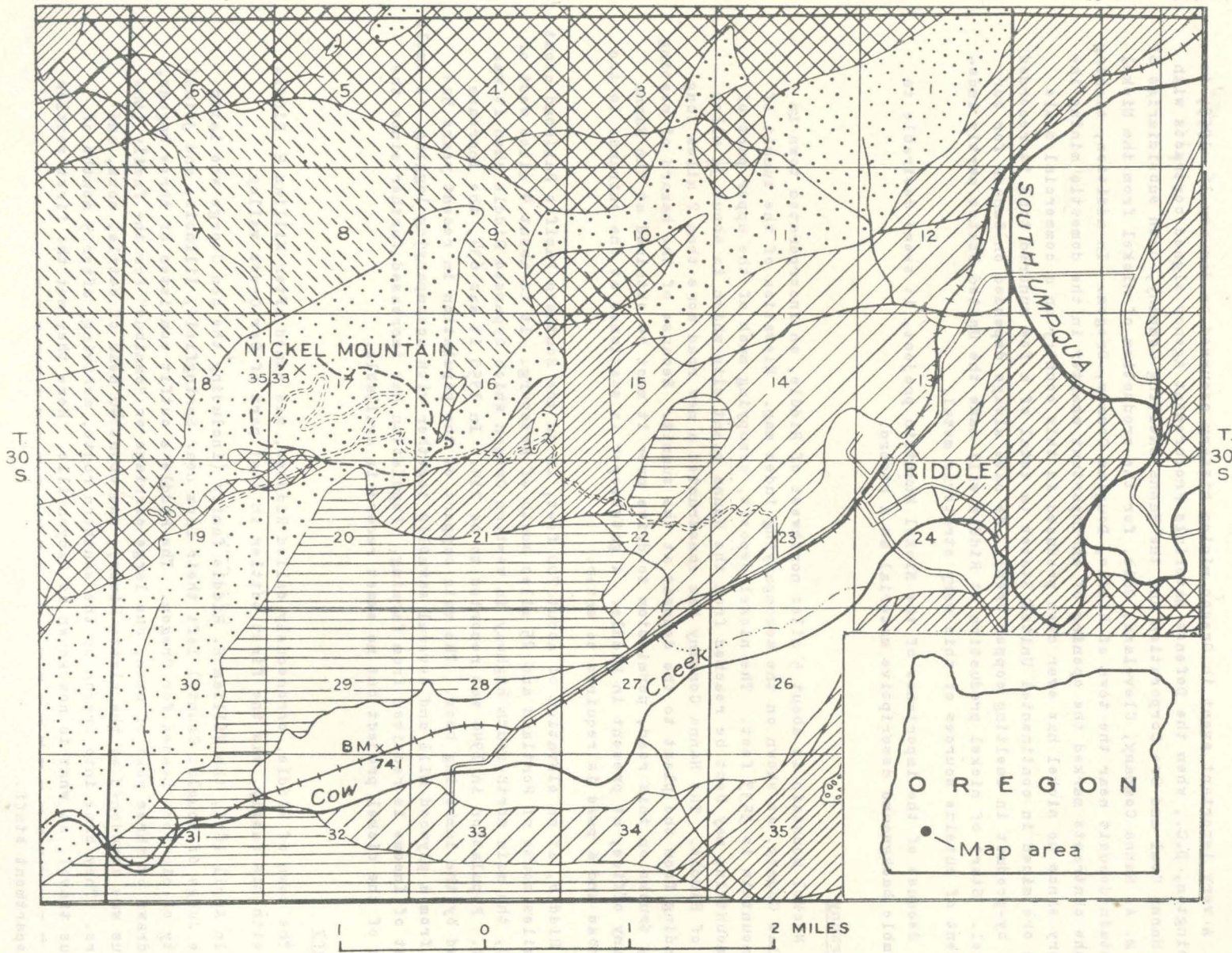
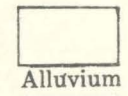


FIG. 11. Part of 3,320 level map, 50-scale.

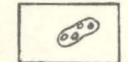


EXPLANATION

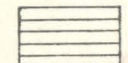
SEDIMENTARY ROCKS



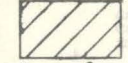
Alluvium



High terrace gravels



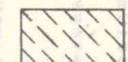
Umpqua formation
(Sandstone and shale)
UNCONFORMITY



Horsetown formation
(Shale)
UNCONFORMITY

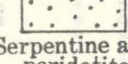


Knoxville formation
(Sandstone and shale)
UNCONFORMITY

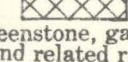


Dothan formation
(Sandstone)

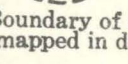
IGNEOUS ROCKS



Serpentine and
peridotite



Greenstone, gabbro,
and related rocks



Boundary of area
mapped in detail

QUATERNARY

TERTIARY

CRETACEOUS

JURASSIC

LATE JURASSIC

GEOLOGIC MAP OF THE VICINITY OF NICKEL MOUNTAIN, DOUGLAS COUNTY, OREGON