DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MINERAL INVESTIGATIONS
FIELD STUDIES MAP MF 136

GEOLOGIC MAP AND SECTIONS OF THE PIOCHE HILLS, LINCOLN COUNTY, NEVADA

By
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Scale 1:12 000

1000 0 1000 2000 3000 4000 Feet

Contour interval 25 feet
Datum is mean sea level

1958

Base mapped by C. F. Park, Jr., J. E. Frost, and C. M. Tschanz, 1949, 1950, and 1951. Coordinate system from Combined Metals Reduction Company, published by permission.

Geology mapped in 1949, 1950, and 1951.

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EXPLANATION

TERTIARY AND QUATERNARY

Qfa — **Alluvium and Panaca formation undifferentiated**
Includes stream deposits, slope wash, talus, and the Panaca formation. Mostly unconsolidated.

Tv — **Volcanic rocks**

TERTIARY

Tgd — **Granodiorite**

Td — **Diabase**

CARBONIFEROUS

Chdl — **Dolomite and limestone**
Uppermost member of the Highland Peak formation mapped in the Pioche Hills. Light-gray, thin-bedded to massive dolomite and subordinate limestone and limestone. Gray to blue gray on fresh surfaces. Weathers to light gray. Locally called Bolger dolomite. Thickness is 150–175 feet.

Chl — **Limestone**
Dark-gray medium-grained, mottled, thickly bedded limestone lies at both top and bottom of the unit. Locally called Bristol limestone. Thickness is 215–230 feet.

Chs — **Sandstone or siltstone**
Buff to reddish-brown fine-grained, thinly laminated sandstone or siltstone; weathers to form slopes cut into flat plates 2 to 4 inches across and 1 to 2 inches thick. Locally called Platy dolomite. Thickness is 170–180 feet.

Chol — **Limestone**
Dark-blue massive limestone with white massive limestone beds at both top and bottom of the unit. Contains abundant fossil debris. Weathers to form rugged a massive cliff-and-ledge appearance to the rock. Locally called Notgrad limestone. Total thickness is 1 045 feet.

Chl — **Limestone**
Thin-bedded, dark-gray to black, fine-grained or medium-grained limestone. Shale partings common. Weathers to light gray and has a rough, knobby. Weathered surface stained by spots of pink or red iron oxides. White calcite stringers and veinlets are common in the upper part of the limestones. Locally called Davidson black limestone. Thickness is 140–240 feet.

Chd — **Dolomite**
White to light pearl gray, coarsely crystalline thick-bedded dolomite; weathers to rough, massive cliffs. Locally a fine-grained dense white limestone. Locally called Davidson dolomite. Thickness is 300–350 feet.

Chbl — **Limestone**
Dark blue-gray, thick-bedded or massive limestone, weathering to a rough, massive cliff. Fossiliferous. Commonly brecciated and veinlets numerous white calcite stringers. The basal member of the Bird Spring formation in the Pioche Hills is a fossiliferous blue limestone. Thickness is 160–180 feet.

Cc — **Chainman shale**
Dull olive gray, tan to maroon, argillaceous and calcareous shale and limy shale to shaly limestone. Weathers to form slopes covered with abundant well-preserved reddish-and brownish to tan-colored material. Thickness is 160–170 feet.

Cl — **Lyndon limestone**
The uppermost member is dark blue-gray limestone; weathers to form a rough, massive cliff. Lower part is light gray dense crystalline limestone which averages 100 feet thick. The lower member is a dark-gray fossiliferous limestone 115 feet thick. Locally called Prince limestone.

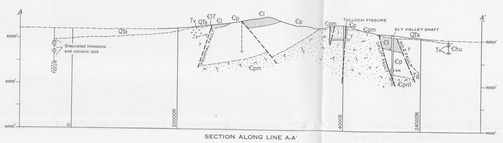
Cp — **Pioche shale**
Largely shale, locally with conspicuous reefs. Elsewhere mica is absent. Contains beds of impure limestone and sandstone. Lies conformably on Prospect Mountain quartzite. Dark gray, gray, greenish gray to brown on fresh surfaces. Commonly weathers to form slopes. Limestone beds in the upper part of the unit are fossiliferous. The basal limestone member (cp), locally called the Combined Metals beds, is a distinctive limestone and is shown differentiated only in section C-C'. Thickness of the Pioche shale ranges from 815 to 920 feet.

Cpm — **Prospect Mountain quartzite**
Alternating beds of shale and quartzite in upper part; lower part is massive white to gray quartzite of which more quartzite, probably 1000 to 1200 feet thick. The basal 5 feet consist of brecciated quartzite. Contact between shale and quartzite is indefinite because it is the finest unit in the region.

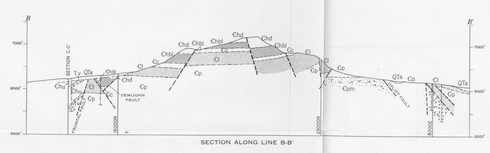
- Contact, showing dip — *Dashed where approximately located.*
- Fault, showing dip — *Dashed where approximately located; dotted where concealed.*
- Vertical fault — *Dashed where approximately located.*
- Doubtful or probable fault
- 20 — Strike and dip of beds
- Dike
- Shaft at surface
- Portal of adit
- Prospect
- Diamond-drill hole — *Shown only in sections.*
- (7) — Location of mines and prospects

List of mines and prospects
(Arranged in order of location from west to east.)

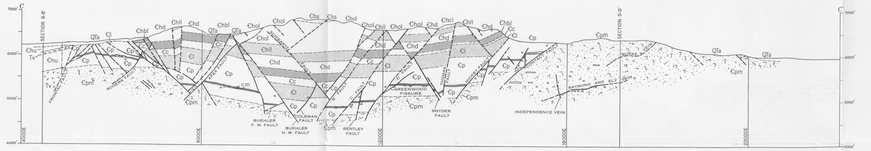
1. Pioche Metals mine
2. Denijohn mine
3. Old Timer mine
4. Chihuhu mine
5. Half Moon mine
6. Abe Lincoln mine
7. Gold Eagle mine
8. Mary Ann mine
9. Marian mine
10. Golden Eagle mine
11. Pioche King mine
12. Newport mine
13. Davidson shaft
14. East Prince shaft
15. Centennial shaft
16. Celtrom tunnel
17. Prince tunnel mine
18. Combined Metals No. 1 mine
19. Susan Dunter mine
20. Meadow Valley No. 3 mine
21. Meadow Valley No. 5 mine
22. Tuba mine
23. Nevada Dee Moines mine
24. Burke mine
25. Boston Pioche mine
26. Pacific tunnel
27. Raymond and Ely Extension mine
28. Pioche mine
29. Freeman mine
30. Daly East mine
31. Salt Lake Pioche mines (four shafts)
32. Bumagain shaft
33. Yukon mine
34. Alps shaft
35. Wide Awake mine



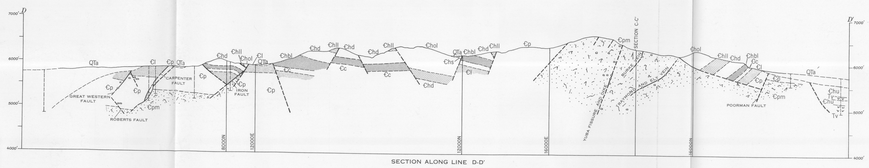
SECTION ALONG LINE A-A'



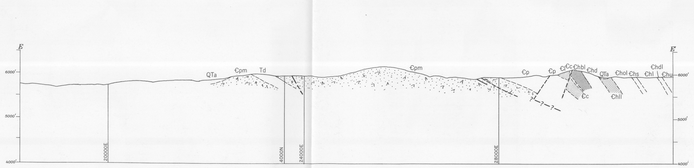
SECTION ALONG LINE B-B'



SECTION ALONG LINE C-C'



SECTION ALONG LINE D-D'



SECTION ALONG LINE E-E'

INDEX MAP OF NEVADA SHOWING LOCATION OF PIOCHE HILLS