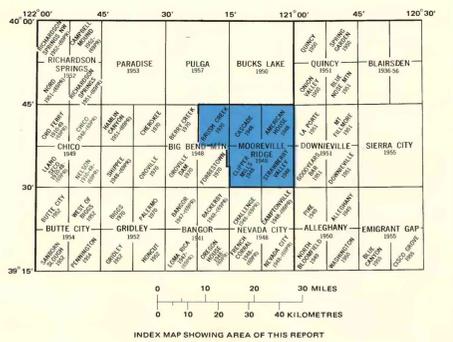


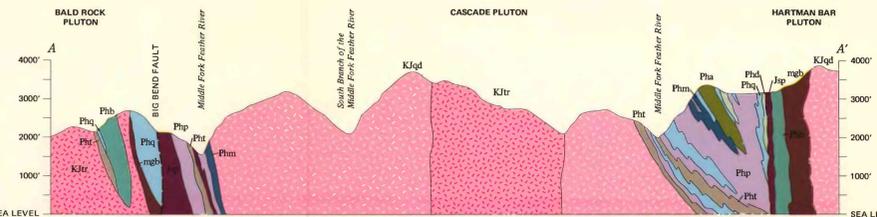
- ### DESCRIPTION OF MAP UNITS
- EXTRUSIVE ROCKS**
- Tba** OLIVINE BASALT - Light to medium-gray porphyritic rock with flow structure and columnar jointing. Phenocrysts are olivine and augite. Groundmass consists of plagioclase, augite, magnetite, and some glass.
 - Tpa** PYROCLASTIC ANDESITE - Mudflow breccia and pyroclastic material with round fragments of andesite embedded in fine-grained light gray debris. Phenocrysts of augite and oxyhornblende are in a groundmass of plagioclase and augite.
 - Ti** LOVEJOY BASALT (Miocene) - Fine-grained black flows with some small phenocrysts of olivine. Groundmass consists of small laths of plagioclase, tiny grains of augite, disseminated to dendritic magnetite, subhedral grains of magnetite, and interstitial glass.
 - Ts** AURIFEROUS STREAM DEPOSITS - Sand and gravel.
- PLUTONIC ROCKS**
- Kjr** TRONDHJEMITE - Coarse-grained very light gray plagioclase (An₁₅₋₂₅) quartz-biotite rock with some hornblende, muscovite, and potassium feldspar. Grades with increasing amount of hornblende and decreasing amount of quartz to tonalite and quartz diorite toward the borders of the pluton.
 - Kjd** QUARTZ DIORITE AND TONALITE, UNDIFFERENTIATED - Coarse-grained plagioclase-quartz-biotite-hornblende rock that grades from quartz diorite at the borders to tonalite toward the interior of the plutons with decrease in hornblende and increase in quartz content. Tonalite contains large biotite crystals in places and grades to potassium feldspar-bearing monzonite toward the centers of the plutons.
 - Jdi** DIORITE AND QUARTZ DIORITE, UNDIFFERENTIATED - Coarse to medium-grained gray rock that consists of plagioclase, epidote, and hornblende with some quartz, biotite, and magnetite.
 - Jdb** GABBRO - Coarse-grained dark-gray to black rock that consists chiefly of hornblende, plagioclase (An₃₅₋₄₅), epidote, and magnetite.
- METAMORPHOSED INTRUSIVE ROCKS**
- mdr** SERPENTINE AND PERIDOTITE - Peridotite consists of augite, enstatite, olivine, and magnesio-hornblende; partly altered to serpentine, talc schist, and soapstone.
 - mdl** METATRONDHJEMITE - Medium-grained, light-bluish-gray, equigranular, massive to foliated albite-quartz-biotite-hornblende rock with some actinolite, epidote, muscovite, and chlorite.
 - mdj** METADIORITE - Medium-grained, gray, equigranular, massive or slightly foliated rock consisting of hornblende albite, epidote, and quartz.
 - mdk** METAGABBRO AND HORNBLENDITE - Coarse to medium-grained dark-gray to black equigranular hornblende-plagioclase-epidote rock, in places foliated. Includes masses of coarse-grained hornblende rock.
- METAMORPHIC ROCKS**
- Phb** Metabasil - Dark-gray to black foliated hornblende-albite rock with some epidote and magnetite.
 - Pha** Meta-andesite - Greenish-gray fine-grained massive to foliated epidote-actinolite-hornblende-albite rock with or without chlorite.
 - Phd** Metadacite - Light-greenish-gray massive to foliated albite-quartz-actinolite-hornblende-epidote rock with or without chlorite.
 - Phc** Metachlorite - White to light-gray massive to foliated quartz-albite-biotite-muscovite-epidote rock with some actinolite. Some occurrences are rich in potassium feldspar, some others in biotite.
 - Phq** Metatuff - Foliated rocks consisting of quartz, albite, epidote, and actinolite with varying amounts of hornblende, chlorite, biotite, and muscovite. Color changes with increasing quartz content from dark gray through greenish or brownish gray to white. Includes layers of tuffaceous metasediment.
 - Php** Marble - White to light-gray partly micaceous calcium carbonate rock with distinct bedding.
 - Phg** Quartzite and metachert, undifferentiated - Quartzite is thin bedded, light bluish gray to white, with some tremolite and micas. Metachert is thin bedded, white to gray, with micaceous laminae or dark gray and massive with white quartz veins. Grades to black phyllite.
 - Phf** Phyllite - Brownish-gray fine- to medium-grained foliated rock that consists of quartz, muscovite, biotite, and chlorite with or without epidote and calcite. Includes layers of lithic metagraywacke in the southern part.
 - Phm** Hornblende gneiss - Medium-grained gray foliated rock that consists chiefly of plagioclase, hornblende, and some quartz, biotite, and epidote.
- FRANKLIN CANYON FORMATION (Devonian?)**
- Df** Metandresite - Includes pyroclastic material, pillow lavas, tuffs, and flows, all metamorphosed to greenish-gray epidote-actinolite-albite rocks with some chlorite, hornblende, and occasional remnants of augite and plagioclase phenocrysts.
 - Dp** Phyllite - Black fine-grained quartz-albite-biotite-chlorite-muscovite-epidote-magnetite rock with bedding and slaty cleavage. Includes layers of lithic metagraywacke in the southern part.
 - Dq** Quartzite - Thin bedded gray granular quartzite with micaceous laminae.
 - Dm** Metatuff and tuffaceous metasediment - Well-foliated dark-gray to white rocks consisting of albite, epidote, actinolite, hornblende, biotite, chlorite, muscovite, and quartz in varying proportions. Includes layers rich in carbonates.
 - Dc** Metadacite - Flows and pyroclastic material with tuff layers, metamorphosed to light-greenish-gray albite-quartz-epidote-actinolite-hornblende rocks with or without chlorite.
 - Dg** Metachlorite and metachlorite - White to light-gray rocks with quartz and albite phenocrysts and a fine-grained groundmass consisting of quartz, albite, muscovite, and biotite with some actinolite or chlorite and epidote.



- Contact
 - - - Fault - Dashed where approximately located; dotted where concealed
 - - - Minor fold axis, showing plunge
 - - - Strike and dip of beds
 - - - Vertical
 - - - Vertical
 - - - Strike and dip of foliation
 - - - Inclined
 - - - Vertical
- Bearing and plunge of lineation
 - - - Strike and dip of joints
 - - - Inclined
 - - - Vertical
 1312 - Sample locality
 - - - Dike, undifferentiated

LOCALITIES OF SPECIMENS

| No. | Section | Township north | Range east | No. | Section | Township north | Range east | No. | Section | Township north | Range east |
|------|---------|----------------|------------|------|---------|----------------|------------|------|---------|----------------|------------|
| M204 | 20 | 21 | 6 | 1308 | 21 | 21 | 7 | 1470 | 33 | 22 | 6 |
| 648 | 19 | 22 | 7 | 1309 | 20 | 21 | 7 | 1492 | 26 | 21 | 6 |
| 649 | 19 | 22 | 7 | 1311 | 13 | 21 | 6 | 1515 | 33 | 22 | 6 |
| 1200 | 9 | 21 | 8 | 1312 | 13 | 21 | 6 | 1519 | 7 | 21 | 6 |
| 1205 | 36 | 22 | 6 | 1313 | 14 | 21 | 6 | 1521 | 6 | 21 | 6 |
| 1206 | 31 | 22 | 7 | 1326 | 22 | 21 | 6 | 1522 | 6 | 21 | 6 |
| 1207 | 31 | 22 | 7 | 1327 | 7 | 21 | 7 | 1531 | 16 | 20 | 7 |
| 1208 | 31 | 22 | 7 | 1328 | 8 | 21 | 7 | 1532 | 9 | 20 | 7 |
| 1209 | 6 | 21 | 7 | 1330 | 9 | 21 | 7 | 1552 | 19 | 20 | 8 |
| 1210 | 8 | 21 | 7 | 1333 | 1 | 20 | 6 | 1555 | 20 | 20 | 8 |
| 1211 | 34 | 22 | 7 | 1337 | 6 | 20 | 7 | 1556 | 12 | 20 | 7 |
| 1214 | 25 | 22 | 7 | 1362 | 33 | 21 | 8 | 1557 | 27 | 22 | 6 |
| 1223 | 8 | 21 | 8 | 1364 | 27 | 21 | 8 | 1559 | 27 | 22 | 6 |
| 1224 | 8 | 21 | 8 | 1367 | 32 | 21 | 8 | 1570 | 30 | 20 | 8 |
| 1248 | 11 | 21 | 7 | 1368 | 29 | 21 | 8 | 1604 | 21 | 22 | 6 |
| 1267 | 36 | 21 | 6 | 1370 | 11 | 20 | 7 | 1605 | 21 | 22 | 6 |
| 1270 | 25 | 21 | 7 | 1450 | 19 | 20 | 8 | 1606 | 29 | 22 | 6 |
| 1271 | 24 | 21 | 7 | 1451 | 10 | 21 | 6 | 1607 | 29 | 22 | 6 |
| 1272 | 1 | 20 | 7 | 1452 | 10 | 21 | 6 | 1608 | 30 | 22 | 6 |
| 1281 | 30 | 22 | 8 | 1461 | 10 | 21 | 6 | 1610 | 32 | 22 | 6 |
| 1282 | 30 | 22 | 8 | 1462 | 9 | 21 | 6 | 1611 | 31 | 22 | 6 |
| 1292 | 30 | 22 | 8 | 1468 | 27 | 22 | 6 | | | | |



GEOLOGIC MAP OF THE AREA AROUND THE MIDDLE AND SOUTH FORKS OF THE FEATHER RIVER, CALIFORNIA

SCALE 1:48 000
 1 2 3 4 5 6 KILOMETRES
 CONTOUR INTERVAL 100 FEET
 DATUM IS MEAN SEA LEVEL

Base from U.S. Geological Survey
 Monoville Ridge and Big Bend Mts.,
 1:62,500, 1948
 Reservoirs as of 1973

Geology by Anna Hiettman 1969-73