deformed late Cenozoic non-marine strata by the Hidden Spring fault zone, a branch of the nearby San Andreas.

Northeast of the Orocopia schist a mile-wide wedge of gabbro, diorite, anorthosite, gneiss, and alaskite lies between a northeast-dipping fault, at places folded, and a high-angle major fault marked by great crushing. These rocks, intruded by volcanics and highly deformed, resemble rocks in the western San Gabriel Mountains, about 150 miles northwest.

Northeast of the high-angle fault, augen gneiss with migmatite on the southeast and granite on the north underlies unconformably about 4,800 feet of newly discovered fossiliferous marine Eocene strata which are probably correlative with Coast Range middle Eocene. Unconformably overlying this sequence is a 5,000-foot thick variable series of undated non-marine conglomerate, sandstone, shale, and tuff, with volcanic flows and intrusions. In this series, lenses of granitic breccia characterize the northwest, and platy tuffaceous sandstone with gypsum-bearing interbeds the southeast.

Major faults separate the area into tectonic blocks of different geologic history, and local correlation across the faults is not possible. Understanding of the significance of these faults and others in the vicinity, like the San Andreas, awaits regional study such as that now underway. Strike separations dominate over dip separations on minor faults associated with complex folds.

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Eocene Stratigraphy and Paleontology of Orocopia Mountains, Southeastern California

Marine Eocene strata underlie about 26 square miles in the northeastern Orocopia Mountains, Riverside County. The newly discovered section, which totals about 4,800 feet in thickness, lies in a structural trough within basement rocks and is overlain unconformably by about 5,000 feet of undated non-marine clastic and volcanic rocks.

The Eocene beds consist of interbedded siltstone, sandstone, and breccia with some sandy limestone and conglomerate. On the east, at the base of the section, large granitic boulders up to 30 feet in diameter lie along the unconformity with granite. These give way upward to thick lenses of coarse granitic breccia with interbeds of buff siltstone and arkosic sandstone. The upper part of the section on the east consists of massive buff siltstone with sandstone and boulder beds. On the west the section consists largely of interbedded siltstone and sandstone with conspicuous isolated boulders of granite.

Mollusks and Foraminifera, including orbitoids, occur at many localities throughout the section. Some of the characteristic forms are: *Turritella andersoni* cf. *lawsoni* Dickerson, *Turritella uvasana* cf. *applini* Hanna, *Clavilithes* sp., *Marginulina mexicana* (Cushman) var., *Pseudophragmina* (*Proporocyclina*) *psila* (Woodring) and *Pseudophragmina* (*Proporocyclina*) *clarki* (Cushman).

This fauna indicates middle Eocene age, and the strata are possibly correlative with similar rocks of the Coast Ranges.

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Aeromagnetic Study of Copper River Basin, Alaska

An aeromagnetic survey was made of approximately 6,000 square miles of the Copper River Basin, Alaska, in 1954 and 1955. North-south flight lines spaced one mile apart were flown from Latitude 61°45′ to 63°00′. The eastern and western borders of the surveyed areas are at Longitudes 145°00′ and 147°22′.

The magnetic patterns closely parallel the generally east-west arcuate geologic "grain" and seem to be correlative with lithology and with geologic structure. Outcropping areas of volcanic rocks are reflected by the configuration of the magnetic contours. A large area of low-amplitude magnetic anomalies extends from the Chugach Mountains north to about Latitude 62°30′. This area may possibly outline a structural basin of Tertiary age superimposed upon a depositional and structural trough of Jurassic and Cretaceous age. Anomaly-producing rock masses in this area are estimated to be a mile or more beneath the surface and are interpreted to be most deeply buried beneath the southern part of the Copper River Basin.

The magnetic data suggest that lower Jurassic volcanic rocks exposed in the Talkeetna and Chugach mountains underlie the marine and non-marine sedimentary rocks of the southwestern part of the surveyed area. The change in the magnetic pattern at the northern front of the Chugach Mountains is caused by a contact between these volcanic rocks and the younger sedimentary rocks on the north. The magnetic data suggest that the Wrangell lavas of Tertiary and Quaternary age are present at shallow depths beneath the basin in the vicinity of Mount Drum.

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Aeromagnetic Reconnaissance of Cook Inlet Area, Alaska

Fourteen aeromagnetic profiles were flown east-west across the Cook Inlet area in 1954, nine extending from about the Triumvirate and Capps glaciers to the Chugach Mountains, and five from