

ACTIVITIES OF THE MINERAL RESEARCH AND EXPLORATION
INSTITUTE (M. T. A.) DURING 1959

1. Geological Work

a) Of the 1/500,000 scale Geological Map of Turkey, map-sections of Sivas, Erzurum, Sinop and İzmir, aggregating 78,155 km², were completed and correlated. Formerly completed map-sections of Kayseri, Diyarbakır, Kars and Trabzon will shortly be printed. 1/100,000 scale revision of a map covering 1600 km² area within the Adana map-section is also completed.

b) Petroleum prospecting is carried on in promising sections of Sivas, Erzinçan, Malatya, Muş and Doğu Beyazıt and for this purpose the following geological maps were prepared :

Scale	Coverage (km ²)
1/ 10,000	323
1/ 25,000	1,713
1/ 50,000	2,437
1/100,000	24,250

c) Hydrological studies carried through in the districts of Ankara, İzmir, Sinop, Kilis were aided by the following geological maps drawn for that purpose:

Scale	Coverage (km ²)
1/ 5,000	7
1/25,000	200

2. Mineral Deposits

I. *Copper, pyrite and zinc studies.* — Geological studies undertaken within the districts of Murgul, Tirebolu, Bulancık permitted pointing out the areas worthy for detailed investigation.

Some exploratory drilling was done in Tirebolu, on locations of interest, set aside during studies in past years.

II. *Prospecting for heavy and rare minerals.* — Areas between Hopa and Sinop, in the northeast section, Tire-Ödemiş and Gördes-Simav in the west, Eskişehir and Keskin region in Central Anatolia were combed for heavy and rare mineral deposits. Samples brought in were examined in laboratories and necessary tests carried out.

III. *Iron ore studies.* — The districts of Kayseri, Elazığ, Sivas, Simav, Aydın, Muğla and Ankara, where major iron ore occurrences have so far been encountered, were systematically prospected.

Detailed mining studies of the iron deposits at Hekimhan (Malatya), on which preliminary work had been taken up in the past years, have now begun and are being carried on.

IV. *Tin and lead.* — Prospection begun last year in the Balya district (Balıkesir), together with a geological study of a section of the area are completed.

V. *Aluminum ore occurrences.* — Prospection work undertaken in recent years covering aluminum ore occurrences within the vilayets of Antalya, Konya, Isparta is likewise completed.

VI. *Prospecting for phosphates* in the vilayet of Antalya and for *boracite* in Kayseri and Kırşehir were carried through in addition to the exploratory

districts adding] up to 4098 meters in all.

Lignite. — 7 wells were drilled to investigate lignite reserves in Soma (Manisa), Beyşehir (Konya), Deveci Konağı (Bursa) totalling to 12,840 meters.

Metallic Minerals. — The following mining activities were carried through for different mineral deposits: 20 wells, totalling 1635 m, were drilled; one 29 meter shaft sunk and trenches (with 2611 m³ earth removed) were dug on the iron deposits at Hasançelebi (Malatya). 42 drill-holes aggregating 4411 m were completed within the chalcopyrite area of Giresun. 33 other boreholes, a total of 3143 meters, were drilled for chrome and boracite at Guleman and Emet respectively. Search for radioactive minerals lead to drilling of 99 meters of wells, digging of 17 meters of tunnels, sinking of 18 meters of shafts, in addition to trenches dug with 745 m³ of earth removed in Şebinkarahisar (Giresun), Milas (Muğla), Keskin (Ankara), Karakaya (Eskişehir) regions.

Water. — 8 wells adding up to 1077 meters were drilled to get water for a number of towns and industrial centers.

4. Work Done in Various Laboratories

a) Paleontology: 2392 samples of fossils were examined and macro, micro and phyto-paleontological determinations made.

b) 7150 samples, including radioactive ones as well, were analysed in a variety of labs. Along with the quali-

tative spectral analyses so far handled in the Chemistry Laboratory, this year quantitative analyses were also taken up. In the Coal and Petroleum Laboratory, mainly Soma and Beyşehir lignites were tested. The same lab ran necessary tests on bituminous shales and natural asphalt in order to determine the quantity, type and origin of bitumen present. In the Ore Dressing and Flotation Laboratory chrome concentrates were given special attention.

5. Topography and Photogeology

a) For the 1/25,000 scale photogrammetric map covering sections of Uşak, Eşme, Salihli and Kula. readings were taken from 366 points and the coordinates and altitudes of 812 points calculated.

b) Topographic maps, scales 1/200 to 1/100,000,—covering a total area of 11,098 hectares in the districts of Hekimhan (Malatya), Beyşehir (Konya), Emet (Kütahya), Mustafa Kemal Paşa (Bursa), Soma (Manisa), Tekirdağ, Malatya, Muş and a number of other regions—were prepared to be used in prospecting for coal, petroleum, mineral deposits, as well as surveying of mines. Along with these activities 258 drilling locations for geophysical studies were set, in addition to 520 other locations for seismic and electrical sounding. Triangulation points numbered 2349, while leveling added up to 624 kilometers.

c) Photogeological study of Hasançelebi iron deposits is also completed.