U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES MAP MF–2380
Version 1.0
Pamphlet accompanies map

GEOLOGIC MAP OF THE NOR AREVIK COAL SITE, SOUTHERN ARMENIA

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Scale 1:1,000

Contour interval 5 m

Base from Tarayan (1942).
Original contour interval 5 m.
Based on a Geographic Positioning System (GPS) reading, lat 39°01'20" N. and long 46°12'15" E. lie within the Nor Arevik coal site.
Digitized by Gourgen Malkhassian.

Mapped by Edward A. Johnson, Artur Martirosyan, and Brenda S. Pierce, June 1999. Modified from Tarayan (1942) and Drobotova and Saponjian (1996).

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DESCRIPTION OF MAP UNITS

Qc Holocene deposits—Gravel, sand, silt, and clay. As thick as 30 m

Nor Arevik Deposit (Neogene)—A terrestrial deposit divisible into three distinct units: in ascending order, coal bearing, sandstone, and conglomerate. The upper two units are commonly missing. Deposit covers only 2.75 km2 at the Nor Arevik coal site. Considered Miocene, or early or middle Pliocene in age by previous workers; generalized in our report as Neogene. As thick as 475 m

Tnac Conglomerate unit—Clast-supported conglomerate containing subangular to subrounded, pebbles to boulders of various intrusive igneous rocks. Weathers light brown to bluish gray. Includes some lenticular interbeds of medium-grained to very coarse grained sandstone. Erosional contact with underlying unit. As thick as 400 m

Tnas Sandstone unit—Poorly sorted, very fine to very coarse grained sandstone

consisting of subangular to subrounded grains of quartz and lithic fragments. Weathers light brown. Includes some lenticular bodies of matrix-supported conglomerate similar in composition to the overlying conglomerate unit. Conformable contact with underlying unit. Unit ranges from 5 to 48 m thick

Tnacb Coal-bearing unit—Mostly mudstone, combustible shale, and coal. Mudstone
is carbonaceous and weathers dark gray; ironstone concretions are rare. Combustible shale is fissile and weathers dark brown; bed thickness ranges from 5 cm to 3.3 m and fossil plant debris are common. Coal is subbituminous and occurs in two zones in upper one-third of unit; coal bed thickness ranges from 2 cm to 1.6 m. Very thin to thin beds of siltstone are common throughout unit, and very thin beds of very fine grained sandstone are rare in lower part of unit. Light-yellowish-brown-weathering, thin-bedded, argillaceous limestone occurs locally in upper one-third of unit; plant and mollusk fossils are common. A basal conglomerate 19 m thick fills a erosional depression in underlying igneous rock at one location. Ranges from 10 to 25 m thick

Ti Intrusive rocks (Paleogene)—Various acidic to basic intrusive igneous rocks; granodiorite predominates

Contact—Approximately located

Strike and dip of bedding

Strike of bedding—Showing dip direction

Mine—Includes trenches T - 3 and T - 8

Drill hole—Drilled by Drobotova and Saponjian, between 1993 and 1996

Trench—Cut by Drobotova and Saponjian, between 1993 and 1996

Shaft—Dug by Drobotova and Saponjian, between 1993 and 1996

Building

Stream

Survey point—Elevation in meters

Line of cross section

This map was produced on request, directly from
digital files, on an electronic plotter

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