Cooperative Geologic Project

File Report

Geologic and Seismic Investigations for

Relocation of Route 138

Brockton-Avon Town Line

Prospective Cut, Stations 193+00 in Brockton

to 8+00 in Avon, Mass.

The report has been prepared for distribution and has not been edited by personnel of
U.S. Geological Survey standards and by

James E. Haynard, Geologist, U.S. Geological Survey

and

Raymond Miller, Geophysicist, U.S. Geological Survey
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by

James E. Maynard, Geologist, U. S. Geological Survey
and
Raymond Miller, Geophysicist, U. S. Geological Survey

General Statement

This work was done to obtain information that would aid in establishing
a grade for this segment of Route 138, and would also be of value in determining
the kinds and quantities of materials to be excavated from the prospective cut
at this site. The work was performed in August 1962 as part of a cooperative
program of the Massachusetts Department of Public Works and the United States
Geological Survey.

Surface Geology

At this location the baseline traverses an area of undulatory ground
moraine. The till constituting the knobs of the ground moraine contains
unusual quantities of cobbles and boulders of all sizes, most of which are
of granite. Although no bedrock was noted at the site, the geology of the
location and the surrounding region suggests that the site is underlain at
shallow depths by dark colored granite.

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Seismic Traverses

Fifteen seismic traverses were made at this site. The locations of the shot points and the arrangement of the seismic lines as surveyed and plotted by the State Engineers are shown on sheet 1.

Subsurface Interpretation

The geologic sections as interpreted from the surface geology and the seismic data are shown on sheet 2. The surface profiles for these sections were prepared by the State Engineers.

The geologic sections show a layer of till overlying an irregular bedrock profile that ranges from 5 to 21 feet below the surface of the ground. The bedrock surface may be more irregular than the smooth curves indicate, with small ridges and depressions at altitudes both above and below these lines. The dotted bedrock profiles in the vicinity of shot points E and J indicate bedrock surfaces interpreted from inclusive seismic data.
ROUTE NO. 138

INTERPRETATIVE GEOLOGIC SECTIONS ALONG SEISMIC TRAVERSSES

COMMUNWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC WORKS
U.S. DEPARTMENT OF THE INTERIOR
GEOLoGICAL SURVEY
COOPERATIVE GEOLOGIC PROJECT

PLAN OF TRAVERSES
SCALE: 1 INCH = 100 FEET
Letters refer to shot points at ends of traverses.
Numbers refer to D.P.W. stations on baseline.

ROUTE NO. 138
BROCKTON—AVON
Sta. 193 Brockton—Sta. 8 Avon

GEOLOGY BY: JAMES E. MAYNARD
SEISMIC DATA BY: RAYMOND MILLER
ENGINEERING BY: CHANDLER—CARNEY
SCALE: 1 INCH = 40 FEET
DATE: AUG 1952
SHEET 1 OF 2

TOWN LINE
AVON TOLL LINE

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