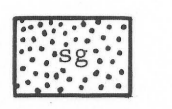



**EXPLANATION**

 **SAND AND GRAVEL**  
Ranges from 100 percent coarse particles (larger than 2 mm) to 25 percent coarse particles and 75 percent medium particles (1/8 to 2 mm). Locally contains minor amounts of silt and clay

 **TRAPROCK (DIABASE)**  
Exposed at land surface or covered by thin deposits of unconsolidated materials

This map shows the distribution of resources of coarse aggregate exposed at land surface. No information is given about the value, quality, nor quantity of the resource. Such information should be obtained from onsite investigations.

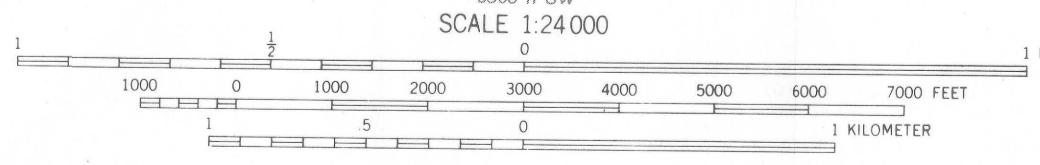
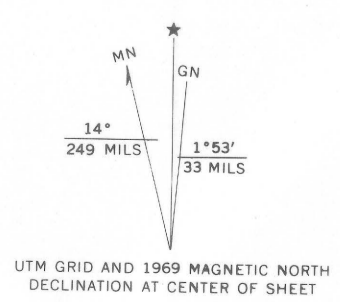
Construction aggregate is obtained from naturally occurring sand and gravel deposits and from certain kinds of bedrock such as traprock (diabase). Traprock is a dense, fine-grained, very hard rock of relatively homogeneous composition and physical properties. It is more durable than most other rock types in the area. Crushing quarried traprock to coarse-size and sand-size particles produces a processed gravel which can be used as a substitute for naturally occurring sand and gravel. Sized fragments of traprock are also used as crushed stone.

**REFERENCES**

- Pomeroy, J. S., 1973, Map showing unconsolidated materials, Warren quadrangle, Massachusetts: U.S. Geol. Survey Misc. Field Studies Map MF-541 B.
- 1973, Preliminary bedrock geologic map of the Warren quadrangle, Worcester, Hampden, and Hampshire Counties, Massachusetts: U.S. Geol. Survey open-file report, 24 p., scale 1:24,000.

Base from U.S. Geological Survey, 1969

10,000-foot grid based on Massachusetts coordinate system, mainland zone. 1,000-meter Universal Transverse Mercator grid ticks, zone 18, shown in black



**MAP SHOWING RESOURCES OF COARSE AGGREGATE, WARREN QUADRANGLE, MASSACHUSETTS**

By  
**John S. Pomeroy**  
1973