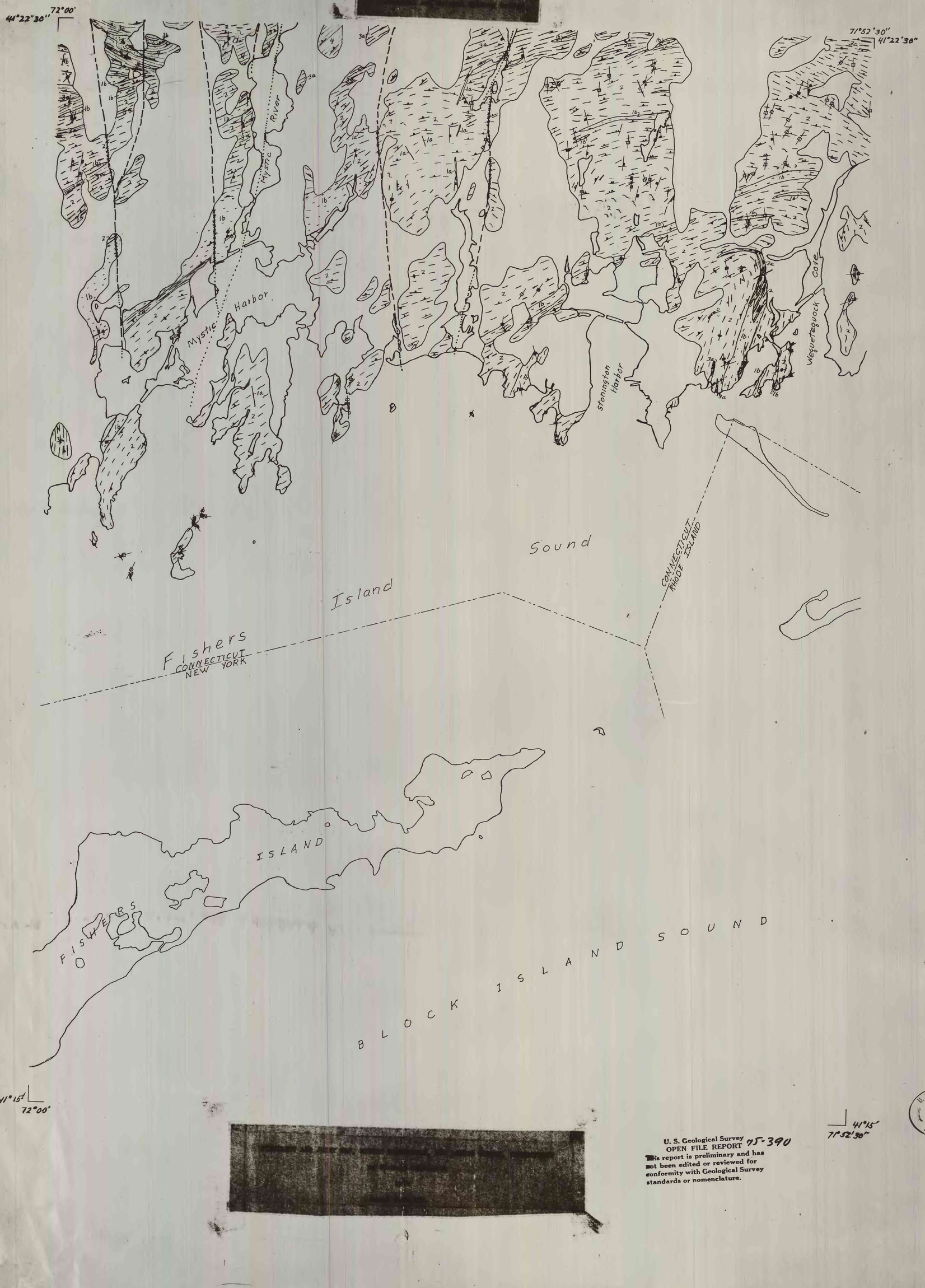

EXPLANATION

The fissility and joint map shows the direction and relative ease of splitting and indicates the main fracture pattern of bed rock in the Mystic quadrangle, Connecticut. Information is shown only where bedrock is exposed or lies within three meters of the ground surface. The blank areas represent water or areas where overburden is thicker than three meters. The information presented may be used with caution in the blank areas by extrapolating the information from areas of outcrop and thin overburden into or through ~~areas of thick overburden~~ (blank areas) in a direction along the trend of the rock units and foliation symbols. However, areas that coincide with valleys lying across the trend of rock units are likely to contain rock with closely spaced joints or zones of fractured rock. The information may be extrapolated with more confidence across drumloidal hills covered by thick overburden such as Pequot Hill, Groton, and the hills traversed by Montauk Avenue and North Main Street in Stonington. The information presented is adapted to the scale of the map and accordingly is ~~somewhat~~ too generalized for application to a particular site. On-site inspection is necessary before undertaking detailed work. The map is intended primarily as a guide to planning.

Bedrock in the quadrangle is relatively fresh. Weathering since the last ice-retreat consists ~~of~~ mostly of incipient mineral disaggregation on exposed surfaces with deepest penetration along steeply dipping fractures or schistose layers. Such penetration may reach as much as 10 meters in appropriate rocks. Bedrock beneath overburden is mostly non-weathered although local areas of pre-glacially weathered rock may be present, as such material is exposed in places in adjacent quadrangles.

Contact

Shown only where the change in degree of fissility from one rock type to another is adrupt

Faults

Width of cross pattern indicates probable width of zone of fractured rock - shown only where bedrock is near the surface; dashed where below 3 m of overburden; dotted where concealed by water.

PLANAR FEATURES

vertical — 60-85° — 30-55° — < 30° (inclined)

Foliation[1]

Shpwing strike and dip of foliation measured to nearest five degrees

[1]Parallel orientation of platy minerals or flat or lenticular clusters of minerals whether concentrated in discreet planes or layers or as discreet flakes and grains disseminated through the rock. Compositional layering is nearly everywhere parallel to the major foliation in the rocks of the quadrangle

vertical — near vertical (dip not measured accurately) — 65-80° — 45-60° (inclined)

Joints

Showing strike and general dip of prominent joints measured to nearest five degrees. Observations made at center of symbol or at intersection of symbols if more than one.

All the bedrock of the quadrangle is broken along two to three dominant sets of joints at approximately right angles to each other. Spacing of these joints and their orientaion differs from place to place depending on the kind of rock and position with respect to a gross regional fracture pattern related to crustal adjustments in the geologic past. The joints measured are mostly end joints (joints perpendicular to strike and dip of layering and foliation). Back joints (steeply dipping joints more or less parallel to the strike of layering and foliation ~~and more or less perpendicular to the dip~~) are also common but their attitudes are not indicated in most places on the map. Attitudes of sheeting joints (joints subparallel to the ground surface and produced by unloading) are prominent in the more massive, less foliated rock types but are not indicated on the map. These joints are typically more closely spaced near the ground surface than at depth. Zones of rock containing closely spaced parallel or intersecting joints and fractured rock related to faulting were not observed, but broken rock may be expected along the faults indicated on the map. These zones of broken rock typically weather out to form valleys and such zones may be expected to underlie the more prominent valleys that lie across the trends of the rock units. In these areas bedrock is not usually e exposed.