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ALASKA

MAP E

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TERRAIN-MAP SERIES SCALE 1:250,000 AND OTHER OFFICIAL SOURCES

SCALE 1:250,000
1 INCH APPROXIMATELY 40 MILES

DATUM IS MEAN SEA LEVEL
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FARGO, ALASKA FEDERAL CENTER DENVER, COLORADO WASHINGTON 25, D. C.
1954

DESCRIPTION AND ENGINEERING GEOLOGY CHARACTERISTICS OF MAP UNITS

UNIT	DESCRIPTION	TOPOGRAPHY	SURFACE DRAINAGE	PERMAFROST	BLASTING AND CRACKER CHARACTERISTICS	AVAILABILITY OF CONSTRUCTION MATERIAL
1	Hard, dense, highly resistant crystalline rocks (granite, schist, limestone)	Prominent uplands and low mountains several hundred feet above the water	Well drained	Ground perennially frozen to great depths. Ice content very small, mainly in small cracks in bedrock. Silt veneer may contain much ice	Rocks react to blasting as a relatively homogeneous unit. Crater walls stable	Abundant
2	Soft, friable, less resistant sedimentary rocks (sandstone, shale, conglomerate)	Low to moderate cliffs, rolling hills, and moderately prominent uplands	Well drained slopes and hills; valley bottoms fair to poorly drained	Ground perennially frozen to great depths. Ice content very small, mainly in cracks in bedrock. Silt veneer may contain much ice	Rocks react to blasting as a slightly less homogeneous unit than hard crystalline rocks. Crater walls stable	Abundant
3	Frozen silt, sand, and gravel less than 150 feet thick, overlying hard crystalline rocks	Gently rolling hills and broad valleys; coastal plains	Fairly well drained except for broad river valleys and coastal plains	Sediments and rocks frozen. Fine-grained material contains considerable ice	Blast can be designed to produce wide, shallow crater extending only to bedrock; however, frozen ice-rich silt—commonly the predominant sediment—will thaw and flow and steep crater walls cannot be maintained	Moderately abundant
4	Frozen silt, sand, and gravel more than 150 feet thick, overlying soft friable sedimentary rocks. Upper 50 feet contains much silt and peat	Flat-lying coastal plain of northern Alaska; small gently rolling areas near Cape Sappington and Kotzebue Sound. Low cliffs or off-shore bars	Mostly poorly drained with many lakes and sluggish streams	All sediments and rocks frozen. Fine-grained material contains much ice; upper 50 ft. contains ice masses 3-50 ft. long and 1-50 ft. wide	Blast can be designed to produce wide, shallow crater extending only to bedrock; however, frozen ice-rich silt—commonly the predominant sediment—will thaw and flow and steep crater walls cannot be maintained	Scarce
5	Frozen silt, sand, and gravel more than 150 feet thick, overlying soft, friable sedimentary rocks	Lovlands composed of bars, spits, and deltas. Also coastal plain of northern Seward Peninsula	Poorly drained with many lakes and streams	All sediments frozen; low to moderate ice content in spits and bars; high ice content in fine-grained material or poorly drained lovlands	Frozen sediments react to blasting as homogeneous unit, but frozen, ice-rich silt—the predominant sediment—will thaw and flow and steep crater walls cannot be maintained	Fairly scarce
6	Frozen pumice more than 150 feet thick, locally with veneer of frozen silt less than 10 ft. thick	Small areas of low hills surrounded by lovland	Well drained except in silt veneer of lovland	Perennially frozen. Pumice contains little ground-ice silt; veneer is ice-rich	Frozen pumice reacts to blasting as homogeneous unit. Crater walls can be stabilized at moderately steep angles	Moderately abundant
7	Frozen silt, sand, and gravel interstratified with basaltic lava flows	Rolling hills with lovlands adjacent to the coast	Hills well drained; lovlands poorly drained	Bedrock contains little or no ice; fine-grained sediments are ice-rich	Crater of hard rock and soft sediments causes material to react to blasting as a non-homogeneous unit. Crater size and shape difficult to predict. Frozen fine-grained material will thaw and not maintain steep walls	Scarce

- EXPLANATION**
- 1 [Symbol] Hard, dense, highly resistant crystalline rocks (granite, schist, limestone)
 - 2 [Symbol] Soft, friable, less resistant sedimentary rocks (sandstone, shale, conglomerate)
 - 3 [Symbol] Frozen silt, sand, and gravel less than 150 feet thick, overlying hard crystalline rocks
 - 4 [Symbol] Frozen silt, sand, and gravel more than 150 feet thick, overlying soft, friable sedimentary rocks
 - 5 [Symbol] Frozen silt, sand, and gravel more than 150 feet thick, depth to bedrock unknown
 - 6 [Symbol] Frozen pumice more than 150 feet thick
 - 7 [Symbol] Frozen silt, sand, and gravel interstratified with basaltic lava flows
 - [Symbol] Area within 20-mile radius of population center
 - [Symbol] 60-foot submarine contour line
 - [Symbol] Direction of long-shore drift

