EXPLANATION OF MAP UNITS

(All map units may not apply on this sheet)

1. CONTINUOUSLY FROZEN—Underlain by permafrost
2. DISCONTINUOUSLY FROZEN—Low to moderate ice content
3. DISCONTINUOUSLY FROZEN—Moderate to high ice content
4. HYDRAULICALLY FROZEN—Low to moderate ice content
5. HYDRAULICALLY FROZEN—Moderate to high ice content
6. GENERALLY UNFROZEN—(Isolated permanent masses)
7. NO PERMAFROST

Explanatory Material for Permafrost Map

Introduction

Permafrost, or permanently frozen ground, is rock or soil that remains continuously colder than 0°C for 2 yr or longer (Hare, 1962; Fontaine et al., 1998). Permafrost and the ground-ice content are inferred from airborne photography, visible and infrared aerial photographs, landsat, soil type, local drainage, and surface features, such as open-system pingos, polygonal ground, and thermokarst gullies and ponds (Kreig and Reger, 2010). Aerial photography and Landsat (visible, infrared, and thermal) observations, except very locally, although rarely considerable field observations in the Tanana River valley and during our investigations failed to establish previously published reports and data. Detailed subsurface investigations should be completed prior to development.

Description of permafrost map units:

Symbols indicate the inferred continuity of permafrost in upper-case letters and the estimated ice content in lower-case letters. For example, 'Dm' indicates that discontinuous permafrost with low to moderate ice content is inferred between the ground surface and a depth of ~20 ft (6 m). Classes of permafrost continuity are consistent with classes used in previous mapping in Alaska (Fontaine, 1963; Reger and Hinger, 1982; Hinger and others, 1980).

Legend

1. CONTINUOUSLY FROZEN—More than 90 percent of the area is inferred to be underlain by permafrost
2. DISCONTINUOUSLY FROZEN—Between 50 and 90 percent of the area is inferred to be underlain by permafrost
3. HYDRAULICALLY FROZEN—Between 10 and 50 percent of the area is inferred to be underlain by permafrost
4. GENERALLY UNFROZEN—Between 0 and 10 percent of the area is inferred to be underlain by permafrost
U. NO PERMAFROST—Seasonally frozen ground is inferred to be underlain by a temperature above 0°C at least once during any 2-yr period
6. MEDIUM TO HIGH ICE CONTENT—Estimated to typically contain 30 to 100 percent soil moisture relative to dry weight
7. LOW TO MODERATE ICE CONTENT—Estimated to typically contain 25 to 50 percent soil moisture relative to dry weight
8. LOW ICE CONTENT—Estimated to typically contain 15 percent soil moisture relative to dry weight

MAP SYMBOLS

- INTERPRETATIVE BOUNDARY—All boundaries are inferred or approximately located
- QUESTIONABLE IDENTIFICATION
- INTACT OR BREACHED OPEN-SYSTEM PINGO
- LOCALITY DISCUSSION IN REPORT

References cited


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