



**DESCRIPTION OF MAP UNITS**

**MARE MATERIALS**

**Ib<sub>4</sub>** MARE BASALT—Overlies unit Ib<sub>3</sub> and rests on unit Ib<sub>2</sub> near Taurus-Littrow valley; relatively smooth surface; underlies trough along east margin of Mare Serenitatis. *Interpretation:* Youngest basalt in map area; origin within Mare Serenitatis.

**Ib<sub>3</sub>** MARE BASALT—Crops out in reentrant southwest of Mons Arcaeus; surface marked by linear and sinuous ridges and small volcanic cones (unit Iv). Embays unit Ib<sub>2</sub>. *Interpretation:* Basalt younger than subfloor basalt (Ib<sub>2</sub>); origin probably in part from volcanic constructs (Iv) and ridges in the reentrant between Dawes and Fabbro.

**Iv** VOLCANIC CONSTRUCTS—Form small to moderate size cones and elongate crater (Abetti) with irregular rim crest, all within unit Ib<sub>3</sub>. Most have breached ramparts. Queried where characteristic cone shape lacking. *Interpretation:* Volcanoes have about same age as unit Ib<sub>3</sub>; Abetti may be older.

**Ib<sub>2</sub>** MARE BASALT—Underlies floor of Taurus-Littrow valley, but also extensively exposed in north-central and southern parts of map area; exposures locally darkened by mantle of volcanic ash. Surface generally rough and uneven and marked by numerous ridges and depressions like those of unit Ib<sub>3</sub>. *Interpretation:* Basalt; may have originated from within Mare Serenitatis or Mare Tranquillitatis. Post-depositional warping and faulting have dissected surface.

**Ib<sub>1</sub>** MARE BASALT—Occurs in southeast part of map area; appears to be embayed by unit Ib<sub>2</sub> along an irregular scarp. *Interpretation:* Oldest basalt in map area; may have originated in either Mare Serenitatis or Mare Tranquillitatis.

**TERRA MATERIALS**

**Ci** LIGHT-MANTLE MATERIAL—Forms bright triangular patch at base of South Massif. *Interpretation:* Regolith material dislodged from steep face of South Massif by ejecta from Tycho.

**Ip** PLAINS MATERIAL—Occurs within old craters and depressions at higher elevations than most mare units. Albedo intermediate between maria and terra. *Interpretation:* Material of different origins—ejecta, mass-wasted debris, and some material possibly volcanic.

**phs** SCULPTURED HILLS MATERIAL—Forms small (<5 km across) rounded hills around and on top of massifs. Resembles Alpes Formation (Page, 1970) around Imbrium basin. *Interpretation:* Ejecta of southern Serenitatis basin.

**plm** MASSIF MATERIAL—Large (>5 km across), bright, steep-sided mountain blocks around east margin of Mare Serenitatis. Gradational with unit phs. *Interpretation:* Ejecta of southern Serenitatis basin.

**CRATER MATERIALS**

Crater materials are assigned to the lunar time-stratigraphic systems on the basis of morphologic characteristics and superposition relations with other geologic units. Except where specifically interpreted as volcanic in origin, all craters are believed to be impact craters.

**Ccc** CRATER CLUSTER MATERIAL—Occurs around Catena Littrow.

**Cc** CRATER MATERIAL—Bright-rimmed crater (Clerke).

**Ec** CRATER MATERIAL—Sharp-rimmed craters.

**Ic** CRATER MATERIAL—Moderately subdued craters.

**Geological Symbols:**

- Contact—Queried where indistinct
- Fault—Bar and ball on downthrown side; dashed where indistinct; dotted where buried
- Depression—Closed or open. *Interpretation:* Lava channel, collapsed lava tube, or graben; dashed where indistinct
- Area of secondary craters—Produced by ejecta from crater Tycho
- Scarp—*Interpretation:* Fault or lava flow front. Triangle points down
- Ridges—Most are on mare, some extend across highland terra
- Volcanic crater rim crest
- Impact crater rim crest
- Lunar Module landing site (LM)

**GEOLOGIC MAP OF THE TAURUS-LITTROW AREA**