DEPARTMENT OF THE INTERIOR

UNITED STATES GEOLOGICAL SURVEY OPEN FILE BEPORT

EXPLANATION

Slope material Dark-halo crater material Characteristics
Occurs on steep slopes, mostly on the inner walls of craters and on noncrater scarps. Topographic details not discernable. Albedo very high; in all places brighter than surrounding materials. Characteristics
Forms dark halo surrounding small crater. Interpretation
Probably volcanic material.

Interpretation
Probably fresh talus and freshly exposed
bedrock; talus may still be forming.

Cc Ccr Ccrh Ccrr Cew Cef Ccp Csc Materials of rayed craters Satellitic-crater material Ray material Characteristics
Cc, crater materials, undivided. Materials of small craters having rays or halos with high albedo. Individual units indistinguishable. Divided in large craters as follows:
Ccr, rim, undivided. Unit stands above surrounding terrain.
Albedo intermediate to high. In the largest craters divided as follows: Characteristics
Light material which forms radial to subradial streaks around craters. No visible
relief. Albedo intermediate to high (0.08-Material of small irregular, low-rimmed craters occurring on lines radial or sub-radial to large crater; craters occur in chains or clusters; some craters have elongate and eliptical outlines. Albedo intermediate to high. In the largest craters divided as follows:

Ccrh, rim, hummocky. Forms rugged ring adjacent to rim crest. Unit grades laterally into Ccrr.

Ccrr, rim, radial. Occurs in radial streaks and grooves; unmapped satellitic craters present on surface.

Ccw, wall. Occurs on steep inner walls of larger craters and in hilly areas at the base of crater walls. Albedo intermediate to high, lower than that of unit Cs.

Ccf, floor. Smooth-appearing material, locally with small hills. Albedo intermediate to high.

Ccp, central peak. Material of rugged peak or cluster of peaks in central part of craters. Albedo intermediate. Interpretation
Fine ejecta from primary and secondary
Copernican impact craters or fresh, bright
material on inner walls of small, telescopically unresolvable, closely spaced
secondary craters. Interpretation
Material of craters formed by the impact of ejecta or clots of ejecta from primary impact crater.

pact ejecta. Ccr, Ccrh, and Ccrr probably consist of impact ejecta or possibly stratified volcanic materials.

Ccp probably consists of crushed bedrock that may have been formed by rebound of crater floor at time of impact.

Interpretation

Larger craters are of impact origin but some small ones may be of volcanic origin.

Cc, Ccw, and Ccf probably consist of crushed bedrock and impact probably.

Ec Ecr Ecw Ecf Materials of rayless craters Ec, crater materials, undivided. Materials of small rayless craters with telescopically indistinguishable units. Albedo low to inter-Ecr, rim. Surface apparently smooth. Albedo low to intermediate. Ecw, wall. Occurs on steep inner walls and on hilly areas at the base of crater walls. Albedo intermediate.

Ecf, floor. Surface apparently smooth. Small hills present locally. Albedo low.

Interpretation
Ec, Ecr, Ecw, and Ecf probably consist of crushed
and brecciated bedrock or impact ejecta.
Ecf may consist of fallback produced by impact;
in some craters may consist of volcanic rocks.

Procellarum Group Characteristics
Material of the extensive mare plains that for low ridges and scarps. Albedo low. Subunits are differentiated on the basis of relative albedo: Ipml, highest albedo; Ipm2, intermediate albedo; Ipm3, lowest

Consists of volcanic materials, either pyroclastic debris or lawa flows; possibly mixed in the upper layers with impact debris. Subunits may represent zones of alteration. In general, the higher the albedo, the older the cubmit

Icr Icw Ief Crater materials Characteristics
Icr, rim. Topography hummocky. Albedo intermediate to high. Icw, wall. Occurs on steep inner walls of the larger craters. Al bedo high.
Icf, floor. Occurs on crater floors;
may be rough as in the crater Posidonius. Albedo intermediate.

Icr, Icw, and Icf probably consist of crushed and brecciated material or impact ejecta.

Apennine Bench Formation Characteristics Topography smooth and rolling; Moderately cratered. Albedo low to intermediate. Interpretation
Probably consists of volcanic
materials filling low areas
on the terra.

Plateau- and plains-forming material Characteristics Topography smooth and rolling. Occurs on the terra; associated with numerous chain craters. Albedo intermediate. Interpretation
Consists of volcanic material,
either pyroclastic debris or
lava flows, filling depressions in terra. Derived from
fissures associated with faults
and chain craters.

lp

Fra Mauro Formation, Hummocky member Characterized by low approximately equidimensional blocky hills, 3-4 km across. Albedo intermediate. Interpretation
Material ejected from the Imbrium basin at
the time of its formation by impact. Topography may largely be the product of structural movement at the time of or after the
formation of the basin.

Basin margin material Characteristics
Topography rough with moderate relief. Occurs around northern part of Mare Serenita-tis. Albedo intermediate to high. Interpretation

Material ejected from the Serenitatis basin at the time of its formation by impact. Present topography formed by later cratering and mass wasting. May locally have thin covering of impact ejecta from the Imbrium basin (Fra Mauro Formation).

Terra material Topography rough with high relief. Albedo intermediate to high. Interpretation
Terra material formed before the Serenitatis basin. Includes features which appear to be pre-Imbrian crater walls. Much of present topography formed by later impact and mass wasting. May have thin local covering of impact ejecta from the Imbrium basin (Fra Mauro Formation).

Very narrow graben

Mare ridge

Line marks crest. Dashed where subdued; dotted where covered by younger materials. Arrow indicates tapered end.

IpIl

Plateau-forming material

Characteristics Occurs on plateau west of La-

cus Mortis in a depression. Smooth to hummocky. Albedo

Consists of volcanic materials

that filled downfaulted val-leys. Derived from fissures

along circular faults related to Lacus Mortis.

intermediate to high.

IpIph

plains-forming material

Occurs in low-lying terra areas south of Lacus Mortis. Undu-lating topography with low hil-

locks as high as 300 meters; more hillocks in area south-west of Lacus Mortis than due south. Albedo intermediate.

Interpretation

Material possibly derived from
the buried pre-Imbrian or Im-

brian craters (see unit IpIcr) south of Lacus Mortis, but could also represent impact ejecta from either Mare Serenitatis or Lacus Mortis.

Concealed contact

Buried formation indicated by symbol in paren-

Contact between mare subunits

Gradational and approximately located.

Contact

Long dashed where approximately located; short dashed where gradational.

appear as slight change in brightness. Interpretation: Fault or surface expres-

Irregular rimless depression

111111 - • • Fault

Dashed where inferred; dotted where concealed. Bar and ball on apparent downthrown side; arrows indicate direction of apparent relative horizontal movement; hachures indicate fault scarp against which younger rocks were deposited.

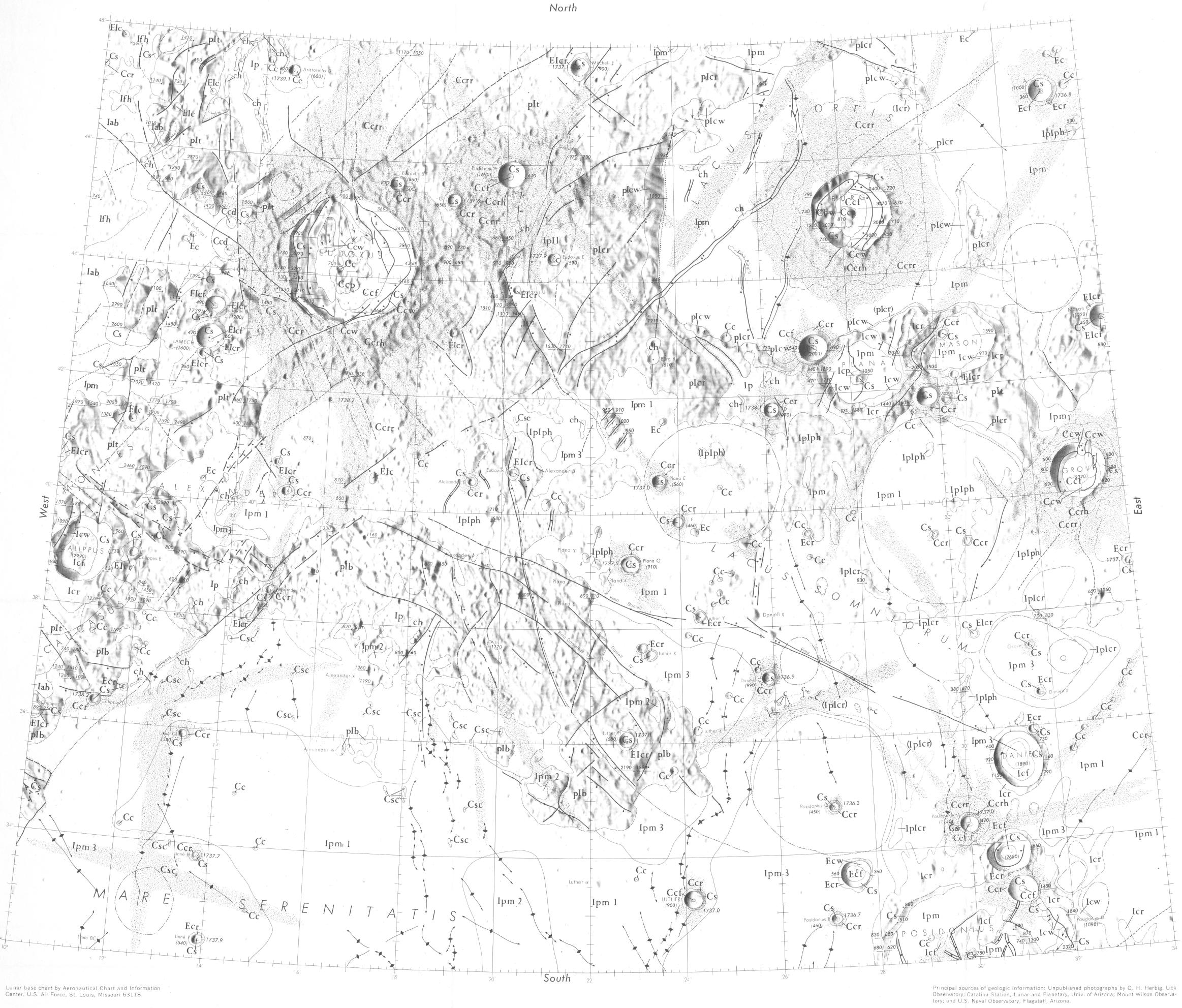
----X-----Mare trough Line marks center of trough. Barbs point down-Interpretation: Buried graben. JA227 26



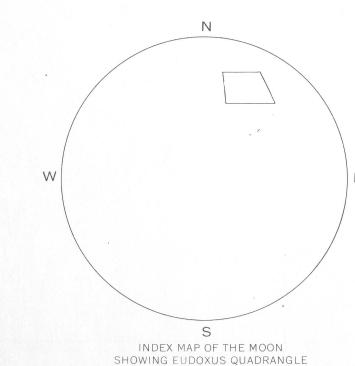
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PRELIMINARY GEOLOGIC MAP OF THE EUDOXUS QUADRANGLE OF THE MOON



Norman J Page 1967 Lambert Conformal Projection Scale 1:1,000,000

Characteristics
Rough or hummocky topography. Albedo Crushed and brecciated bedrock or impact ejecta. May be altered by later impact and volcanism.

Elc Elcr Elcw Elcf Crater materials

Crater materials that have similar topographic and other physical properties to Ec, Ecr, Ecw, and Ecf but that are not in contact with Ipm.

Characteristics

Crater rim material

plcr plcw Crater materials

Characteristics
pIcr, rim. Topography hummocky. Occurs around
Lacus Mortis. Albedo intermediate to high.
pIcw, wall. Occurs on steep inner walls of the
crater Lacus Mortis. Interpretation Crushed and brecciated bedrock or impact ejecta from the crater Lacus Mortis. Altered by later impact or volcanism.

Chain-crater material Characteristics
Material of small contiguous or alined craters, mostly having low rims. Interpretation

Material of volcanic craters.

Crater Materials of small craters occuring in groups. Age indeterminate.

Concealed crater

Symbol indicates rim crest.

K 1 1 Slump block Arrow shows direction of movement.