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## DIRECTION

Class Assessment Sheet

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### Pseudovolcanic Features (2017 Main)

Certain topographic features resemble volcanic forms so much that, they are designated as pseudovolcanic features, in spite of absolute absence of vulcanism. These includes :-

- a) Bomb and mine craters
- b) Meteorite crater
- c) Salt plugs

Bomb and mine craters - are the depressions caused by bomb or mine blasts. These have several characteristics of volcanic explosion craters, or collapsed craters, including the encircling rim of ejected material

Meteorite craters are craters produced by the impact and accompanying explosion of an object of extraterrestrial origin. and is thus one of the most unusual land forms.

For many years there has been considerable skepticism as to the existence of meteorite craters, but these are no longer questioned. Such craters are rather generally accepted particularly since the finding of the mineral coesite in the sunrock of the crater. Coesite is a mineral

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Produced by the polymorphic transformation of quartz by shocks, such as meteoritic impacts would produce.

A great deal of significance has been attached in recent years to features resulting from shock metamorphism, which involve physical and chemical mineralogical changes in the rock subjected to great dynamic loads generated by intense shock waves produced by explosion or high velocity impacts of falling objects.

Two different ideas exist as to the origin of structures which display features that may be attributed to shock -

- a) True impact structures, such as meteorite crater called astroblemes (Dietz)
- b) Structure believed to be products of slower acting volcanic or tectonic processes - cryptovolcanic structures (Butcher)

These structures have several things in common - as

- rough circular outline
- a central dome-shaped uplift displaying intense structural derangement
- sometimes a surrounding ring syncline
- complex high angle normal faulting
- sheared, shattered rocks in central uplift.

Although it is generally agreed that cryptovolcanic structures are explosive in

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origin, there is lack of general agreement that they are related to deep seated volcanism.

Salt Plugs these produce topographic forms superficially similar to volcanic features, like plug domes and craters. Salt, in dry tropical areas, extrudes through the crest of anticlines, domes and the ends of plunging folds. These extrusions take the form of salt hills, salt glaciers and salt marshes. The hills exhibit features of plug domes, rising as abrupt hills with sinkholes and pinnacles on their summits. The salt glaciers, extend down slope as tongue of salt similar to lava flows. Salt corries are cirque like hollows resulting from solution they somewhat resembles craters or calderas.

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