CORE DRILLING IN GRID PATTERN :-

Core drilling in the grid pattern is done for many reasons particularly to determine the depth of mineral body and the variation in the grade of mineral , to have a knowledge of the reserve , to correlate seams or mineral beds , to know the structure of the mineral deposits , dip and strike of the deposits , presence of fault , folds variation of geological parameters , stripping ratio , condition of roof , floor or

hanging wall or footwall in case of steep deposits , quarriable limit , e.t.c. By core analysis the compressive strength , tensile strength , shear strength , density , porosity , elasticity , lithology , grain size , stratification of beds , e.t.c. can be known . Both diamond and churn drills are used for thi purpose . Drilling is done in a moderate grit at rate of 20-25meter/million Tonne of core. The pattern of drilling may be on a 100m ÃŠ 100m , 60m ÃŠ 120m or 60m ÃŠ 180m

or 100 m ÃŠ 200m or any other pattern (rectangular grid) may be considered suitable depending upon nature and extend of the ore body.
In coal formation rock exploration and reserve calculation the following are generally followed in various categories of reserves:
1. PROVED RESERVE
2. INDICATED RESERVE
3. INFERRED RESERVE

ERRORS IN SAMPLING
The reasons of errors are as following :

IN DIAMOND DRILLING

* Due to caved hole -solution is casing or celebration into the hole.
* Loss of sludge in cracks-solution is to close the cracks by cement injection or sand dust.
* Adhesion of ore with drill rod particularly sulphide minerals-solution is lubricating the rod with soap.
* Failure to collect all the sludge in the barrel or in the aettin box.
* Failure to collect all sludge particularly coarse and heavier

ore at the end of sample run-solution is regular examination of overflow , running of pump at full speed at the reserve direction of flow by temporary stuffing box around the drill rod at the top of casing.

IN CHURN DRILLING

The reason of errors in rhis case are due to the following :-

* Caving of walls of holes at the point where the sample is being taken or above the sampling point.
* From the bottom of the hole

inrushes of soft mineral/ore into the hole. Sometimes it fills quite a larger length holes which are resulted from the churning action of the drilling components rubbing with the wall.

* Losses of the total sludge in the cracks presented in the wall.