

width of the deposit. Repeat this operation every 8 or 10 yards, going the whole length of the deposit. The total amount of ore collected represents an average sample. If the deposit is opened up, samples from each shaft and level taken in a similar way must be included with surface samples. Amount of ore for average sample, 5 to 40 lb. Deposits of variable character (e. g. gold ores) require more than those of uniform character (e. g. iron ores).

A sample consisting of a single piece of ore, however large is practically of little value in testing a deposit.

*Directions for quartering down.*—Large quantities of ore for assay may be reduced by "quartering down" thus: crush whole amount to size of a walnut, make into a round heap, mix thoroughly and divide into four equal parts. Select one quarter, crush to size of a bean, mix thoroughly and quarter as before. Proceed in the same manner until the quantity is reduced to 1 or 2 lbs. The resulting pulp represents a fair average of the large sample.

Assays made on this pulp will show the average value of the large sample. A more accurate, though tedious, method of reducing an ore sample is to select two opposite halves from the quartered crushed samples in place of one quarter as above.

*Directions for sending samples to be assayed.*—Crushed samples, representing the average of large quantities, or samples less than 5 lb. in weight, may be sent by mail as 5th class matter (1 c. per oz. limit weight 5 lb.) or per parcel post (1 c. per 4 oz., limit weight 24 oz.) Write your own name and address plainly on the parcel and send instructions with money in payment of fees in a separate letter. When more than one sample is sent at one time, each sample must be distinctly marked and numbered, so that they may be identified by instructions in letter. Samples over 3 lbs. in weight may be sent per express, charges prepaid.

*Check assays.*—The laboratory makes a specialty of Check assay work on gold ores. Sample sent in for check assays must be crushed at least to 5 or 10 mesh, especially in the case of gold ores variable in richness. A sample consisting of a single piece of ore, however large, is practically of little value in testing a deposit, and in no case suitable for check assay. At least 12 ounces of pulp must be sent for assay.

Two pieces of gold ore taken from the same spot in a deposit will not necessarily give the same values on assay.