

Determination of Mercury in Gold Ores by CVAAS Method

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Abstract : Gold is recovered from gold ores. Within the ores, there are not only gold but also several types of precious metals. Copper, silver, and platinum group elements (ruthenium, rhodium, palladium, rhenium, osmium, and iridium) are metals commonly found in the ores. These metals combine to form an ore because they have the same properties. It is due to their position in periodic-system-of-elements are near to gold. However, the presence of mercury in every gold ore has not been mentioned, even though it is located right next to gold in the periodic-system-of-elements and they are located in the same block, d-block. Thus, it is possible that mercury is contained in the ores. Moreover, the elements of the same group with mercury—zinc and cadmium—sometimes can be found in the ores. It is suspected that mercury can not be detected because the processing of gold ores usually using fire assay method. Before the ores melting, mercury would evaporate because it has the lowest boiling point of all precious metal in the ores. Therefore, it suggested doing research on the presence of mercury in gold ores by CVAAS method. The results of this study would obtain the amount of mercury in gold ores that should be purified. So it can be produced economically if possible.

Keywords : boiling point, d-block, fire assay, precious metal

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