

## **METHOD FOR SEARCHING PLACER DEPOSITS**

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During natural processes and planet gravity deposited clasts of placer deposits of various metals are enriched in heavy fractions that always contain debris of magnetic minerals, such as magnetite, titanomagnetite or hematite, that have a density of at least 5200 (MKS units). Thus, the percentage of the element of interest directly correlates with that of a certain magnetic mineral present in a placer deposit. Using this correlation, zones for the most favourable precipitation of heavy particles can be located by the magnetic method. It is practically impossible, however, to detect such magnetic traps by magnetic prospecting or other potential geophysical methods, because the anomalous effect of the above zones is negligible as compared to that of bedrocks. The method proposed incorporates artificial magnetizing of a zone of interest with a strong permanent magnetic field at definite frequency, measurement of altitude of an inductive signal, which is proportional to the specific saturation magnetization of erratic soil at the point of observation, and the determination of the concentration of the magnetic material in the zone in situ. Knowing the areal distribution of the concentration of the magnetic material in the placer deposit, one can easily estimate its potential and reserves of a valuable component. The method can be used to study planets that have no global magnetic field.