

MICRO GRAVITY SURVEYS

Microgravity is a geophysical method that measures minute changes in the force of the earth's gravity. With modern equipment and careful field procedures it is now possible to measure gravity changes as small as 1 part in 1,000,000,000. Changes in gravity measured at the earth's surface reflect the underlying geological structure; hence the accurate determination of gravity leads to an understanding of the ground beneath. Through this geophysical method, we can detect and map shallow and localized geologic anomalies such as bedrock channels, fractures and cavities. Manmade anomalies can also be identified.

The presence of differing subsurface materials results in changes in densities, the most extreme case being voids or cavities. These changes in density result in extremely small anomalies in measurements of the Earth's gravitational field.

The incredible accuracy of the state of the art equipment used combined with intensive data processing means that these very small deviations can be used to detect both natural and manmade structures.

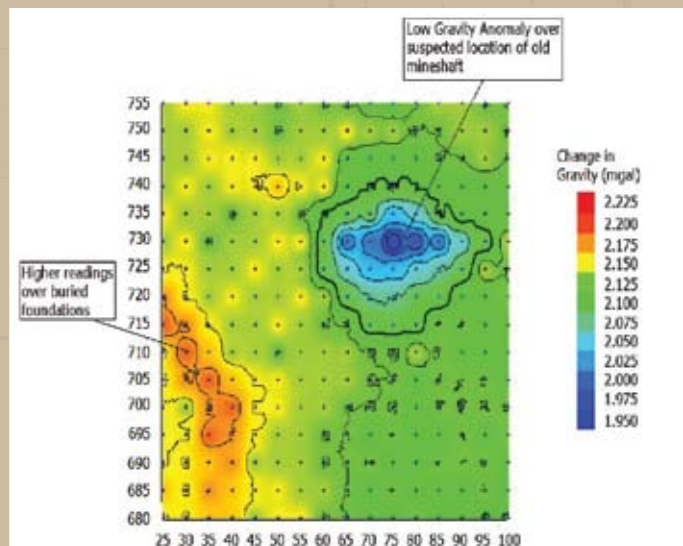


When the gravity meter is directly over a dense material, such as a concrete slab, a higher reading will be recorded. When over a low density feature, such as a void, a lower reading will be recorded. The size of the anomaly will depend mainly on the size, depth, shape and orientation of the feature.

In this example a microgravity survey is shown over a brown field site prior to a new shopping development.

Records suggested the presence of an old mineshaft somewhere on site and the data clearly shows a low anomaly over this.

Higher gravity readings also indicated the presence of old buried concrete foundations which the client had not been aware of.



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