

High Gravity Structure observed around near the Yamasaki Fault

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We measured the Gravity values on and around the Yamasaki Fault, mainly in the Hyogo prefecture, from 1984 to 1999. This fault lies almost northwest to southeast for 80 km. An M7 earthquake seems to have occurred in 868. Our main reason for the measurements is to make clear the upper crustal structure.

The Bouguer anomalies are calculated from 1955 data, in which 967 are by our observation and 988 from Metal Mining Agency of Japan data. The result shows a tendency of high Bouguer anomaly along the fault instead of the usual cases.

We accurately observe the density of 15 stones got from near and far the fault. Stones near the fault are about 0.2 gr/cm³ heavier than those far from the fault. This shows heavier stones exist at least to 500 m-1000 m depth below the fault.

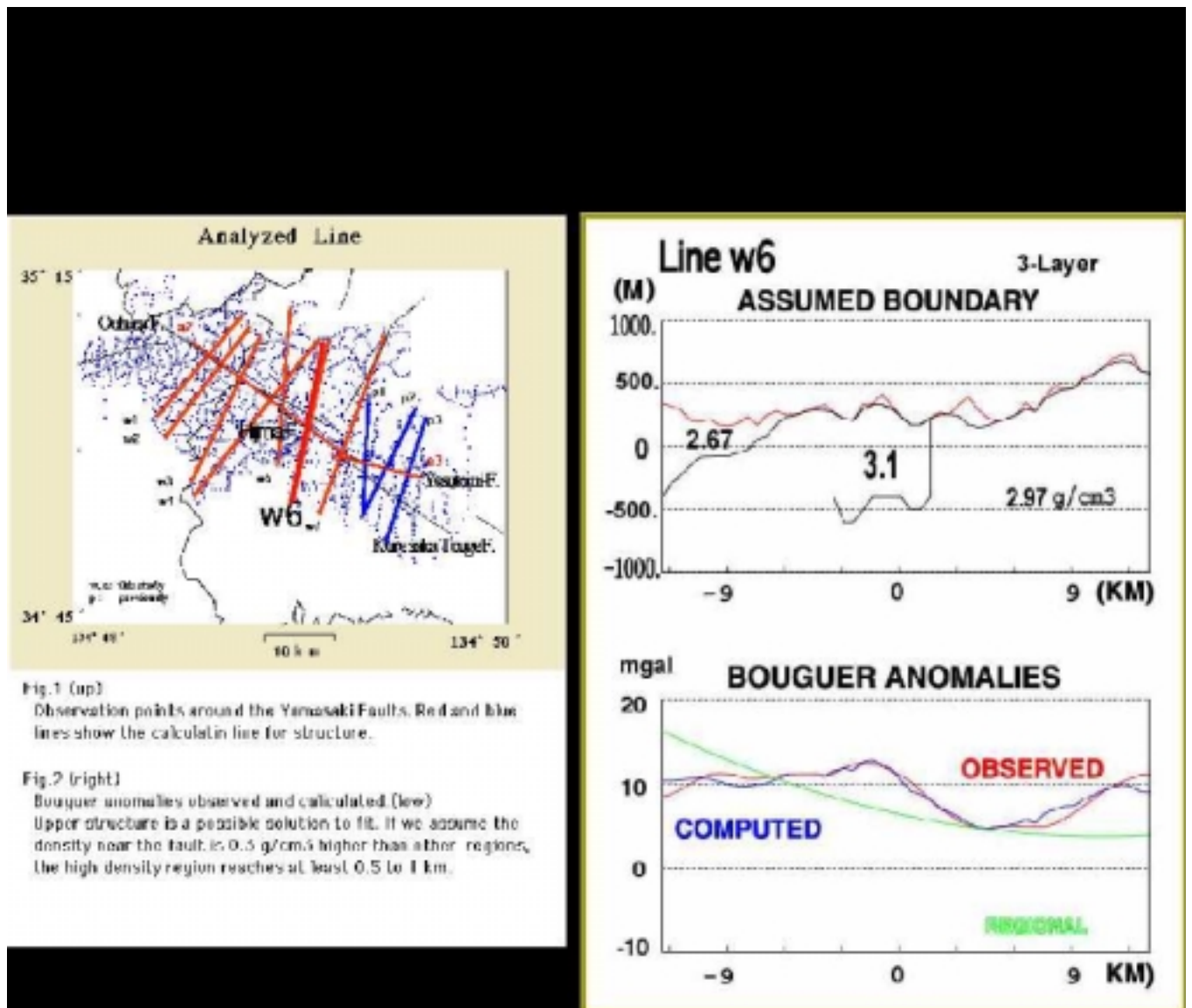


Fig.1 (up) Observation points around the Yamasaki Faults. Red and blue lines show the calculation line for structure.

Fig.2 (right) Bouguer anomalies observed and calculated. (low) Upper structure is a possible solution to fit. If we assume the density near the fault is 0.5 g/cm³ higher than other regions, the high density region reaches at least 0.5 to 1 km.