



Figure 4. Howards Anomaly-Tyndall Creek  $\delta^{34}\text{S}$  Histogram, (Sharpe, 1992).

There is some overlap in the values from the two groupings. Samples from the carbonate alteration zone with low  $\delta^{34}\text{S}$  were taken from the sericite-carbonate-pyrite zone immediately adjacent to the inner silica-sericite-pyrite zone. Samples with higher  $\delta^{34}\text{S}$  of approximately 10-12‰ are associated with the outer carbonate-sericite-chlorite zone. Two samples have very high  $\delta^{34}\text{S}$  of around 30‰. Values of this type occur around the margins of very large massive sulphide deposits such as Rosbery or Hellyer or in the upper zone of Cambrian growth faults due to complete insitu Cambrian seawater sulphate reduction (Davidson & Kitto, 1997).

Both holes intersected extensive alteration zones, both with the most intense silica-sericite-pyrite alteration (and anomalous Au) at the end of the hole. The  $\delta^{34}\text{S}$  of both holes also decrease downhole reflecting the proximity to the centre of the alteration system at the end of the hole.

Alteration mapping, sulphur isotope analysis and DHEM surveys all suggest the proximity of the centre of the mineralisation system to these holes. Further drilling is recommended. Targets should include coincident geophysical and geochemical vectors.

## REFERENCES

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