IM4DC

Action Research Report

SUMMARY

Researcher:
Felix Menu (PhD Student)
[Supervisor: Anton Kepic]

School/Centre:
Department of Exploration Geophysics

University/Institutions:
Curtin University

Key themes:
Operational Effectiveness

Key countries:
Ghana, Australia

Completion:
June 2015

Research aims:
This ongoing PhD research is evaluating the effectiveness of borehole-to-borehole reflection imaging to delineate massive orebodies. Studies so far are on deposits with distinct stratigraphic horizons that are otherwise difficult to detect and map.

For further information on this action research:
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Final report available on request from:
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Orebody Delineation Using Borehole Seismic Techniques for Hard-Rock Exploration

Borehole-to-borehole seismic reflection is feasible in mapping between holes; however, hole trajectory can mean there are blind spots where the orebody cannot be imaged. For instance it is next to impossible to image down-dip without a surface source to aid in imaging.

VMS style orebodies are very difficult to locate in Australia due to nearby conductive horizons and difficult surface conditions (such as weathered overburden, terrain, obstacles etc). The Borehole-to-borehole reflection technique is immune from these issues, but is limited to finding orebodies up-dip of the deepest down-dip borehole. However, the borehole-to-borehole methodology provides better images as compared to what the Rosebery 3D survey managed to achieve, for far less cost.

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