

Memo

To:	Zeehan Zinc Limited	Date:	07/04/2009
Attention:	Laurie Veska	From:	Bin Guo and Pat Hillsdon
cc:	Name and Company	Project No:	ZEE001
SUBJECT:	SEISMIC DATA REPROCESSING AND INTERPRETATION		

Seismic Data Reprocessing

Seismic line TB02B-ZF has been selected and reprocessed as proposed in the contract to test whether reprocessing can improve the seismic image quality. Seismic line TB02B-ZF SEG-D data was first retrieved from SEG-D 3490E tape and converted to SEG-Y and DLT tape by Perth-based Australian Data Management Centre for further accessing and processing. Both reflection and seismic scattering image methods have been used to reprocess seismic line TB02B-ZF. Reflection method processing was implemented using commercial seismic software package developed by BGP; Seismic scattering method processing was conducted using the software developed by Dr. Yun Wang's research team.

Reflection seismic processing on line TB02B-ZF produced a high quality of seismic section. Compared to the previous seismic section of TB02B-ZF (Fig 1), reprocessed seismic section (Fig2) enhanced both the structural and stratigraphic/intrusive element significantly (see Fig 2).

Seismic scattering imaging didn't produce a significant improvement on the seismic section as expected, strong horizontal features obscured the real structures on the seismic data. It is possibly due to the excessively curve seismic line.

SRK recommend reprocessing the rest of seismic line TB02B-ZA, TB02B-ZB, TB02B-ZC, TB02B-ZD using reflection method based on the reprocessing results on seismic line TB02B-ZF. Dr. Yun Wang indicated that reprocessing will take 4 weeks. An estimated processing fee is about A\$25000. A formal quote will be provided if Zeehan Zinc limited decides to go ahead. Otherwise we will use the previous Fugro SEG-Y data to finalise the seismic interpretation.

2 Magnetic data processing and interpretation

MRT magnetic line data has been downloaded from Government website. The data was re-gridded into 40m cell size to improve the resolution and processed using Geosoft. An obvious levelling problem (Fig. 3b) has been observed. We removed the levelling problem successfully using microlevelling technique. SRK has applied the following task on the microlevelled magnetic data.

2.1 Image Enhancement: Magnetic data image enhancements for this study is either to highlight near surface structural features or to bring up the regional setting and to identify the deep intrusives. Thus, upward continuations at various heights were used on the reduction to pole data to enhance the deep magnetic sources, the correspondent separation filtering was used to highlight shallow magnetic

anomalies along with first derivative, automatic gain control and tilt angle filtering. A couple of enhancements are shown below as examples (Fig3).

