Post-stack inversion of P-P Blackfoot data

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ABSTRACT

Various inversion algorithms will be run on migrated P-P Blackfoot data sets, in order to compare the pseudo-impedance sections of each method and, then, use the best method to compare inversions of P-P Blackfoot data, e.g. 2 Hz, 4 Hz, 10 Hz data collected with single geophones, and 10 Hz array data. Well logs from the area will be used as additional constraints for the inversions.

INTRODUCTION

Seismic inversion is a technique that infers the physical structure and properties of subsurface of the earth using seismic traces recorded at the surface of the earth (Russell and Hampson, 1991). Reflectivity inversion is the initial goal of this study. Many types of seismic inversion are available and each has its own advantages and limitations (Russell, 1994). This study will compare the results of 3 different methods of post-stack inversions on the 10 Hz single-geophone data. These are band-limited, sparse-spike and model-based methods, using ProMAX and Hampson Russells' 'STRATA' softwares. Then one of these methods will be chosen and performed on other P-P Blackfoot data sets, acquired by different types of geophones.

PURPOSE OF WORK

1. To obtain the optimum inversion method and pseudo-acoustic section for Blackfoot area which can be converted into a very useful velocity inversion.

2. To study the inversions of various data sets by different types of geophones.

3. To characterize channel anomaly using inversion methods.

REFERENCES

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