

INTISARI

INVERSI SEISMIK 2D *MODEL BASED* UNTUK MENENTUKAN PERSEBARAN RESERVOIR HIDROKARBON TUFF PADA FORMASI VULKANIK JATIBARANG DI LAPANGAN “SARAH AYU”, CEKUNGAN JAWA BARAT UTARA

Drajat Widiatmoko Wibowo

11/313107/PA/13639

Cekungan Jawa Barat Utara merupakan salah satu cekungan yang memiliki potensi hidrokarbon pada berbagai formasi. Hal tersebut dibuktikan dengan adanya beberapa lapangan produksi. Inversi seismik 2D dilakukan pada lapangan “Sarah Ayu” formasi vulkanik Jatibarang dan metode yang digunakan adalah metode *model based inversion*. Hasil inversi yang didapat adalah persebaran nilai impedansi akustik

Formasi Jatibarang memiliki litologi utama berupa batubreksi dan tuff. Reservoir hidrokarbon pada formasi vulkanik Jatibarang adalah tuff. Karakter tuff ditunjukkan dengan nilai impedansi akustik yang relatif lebih rendah dibanding non-reservoir batubreksi.

Hasil inversi Menunjukkan nilai impedansi akustik reservoir tuff adalah 7.000-9.000 (ms)(gr/cc) dan non-reservoir batubreksi 9.000-11.000 (ms)(gr/cc). Persebaran zona prospek reservoir hidrokarbon terletak pada daerah tinggian dalam struktur geologi *half-graben* cekungan Jawa Barat Utara.

Kata kunci: Inversi seismik 2D, *model based inversion*, impedansi akustik, reservoir hidrokarbon, tuff

ABSTRACT

**MODEL BASED 2D SEISMIC INVERSION TO DETERMINE
DISTRIBUTION OF TUFF HIDROCARBON RESERVOIR IN
JATIBARANG VOLCANIC FORMATION, "SARAH AYU" FIELD, NORTH
WEST JAVA BASIN**

Drajat Widiatmoko Wibowo

11/313107/PA/13639

North West Java Basin is one of the basins that have the potential of hydrocarbons within various formations. This is shown by the existence of several production fields. The 2D seismic inversion has been done on "Sarah Ayu" field of Jatibarang volcanic formation and the method used is model based inversion. The result of the inversion is distribution of acoustic impedance value.

Jatibarang Formation has the main lithology of breccia and tuff. The hydrocarbon reservoir in Jatibarang volcanic formation is tuff. Tuff characters are shown with relatively lower acoustic impedance values than non-reservoir breccia.

Result of inversion indicates that acoustic impedance value of reservoir tuff is 7.000-9.000 (ms)(gr/cc) and non-reservoir breccia is 9.000-11.000 (ms)(gr/cc). Distribution of hydrocarbon reservoir prospect zone lies at structural high within half-graben in north west java basin.

Keywords: 2D seismic inversion, model based inversion, acoustic impedance, hydrocarbon reservoir, tuff