

## INTISARI

### **IDENTIFIKASI ZONA PROSPEK RESERVOIR DAN PERHITUNGAN CADANGAN HIDROKARBON MENGGUNAKAN ANALISIS PETROFISIKA DAN INTERPRETASI SEISMIK PADA LAPANGAN "RFI", CEKUNGAN JAWA BARAT UTARA**

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Cekungan Jawa Barat Utara merupakan salah satu cekungan yang telah terbukti memiliki kandungan hidrokarbon. Lokasi penelitian berada pada Lapangan "RFI", Sub Cekungan Jatibarang, Cekungan Jawa Barat Utara dengan fokus penelitian berada pada Formasi *Conglomerate* Jatibarang (CGL), Formasi Cibulakan Bawah (Q1), dan Formasi Cibulakan Atas (F). Penelitian menggunakan satu data sumur "RFI-001" dan data seismik 3D *Post Stack Time Migration*. Sumur penelitian merupakan sumur eksplorasi, sehingga diharapkan dapat menjadi sumur referensi dalam karakterisasi *reservoir* dan pengembangan sumur usulan pada lapangan tersebut. Penelitian ini bertujuan untuk mengetahui zona prospek *reservoir* dan perhitungan cadangan hidrokarbon. Perhitungan cadangan hidrokarbon dapat diketahui melalui analisis petrofisika dan interpretasi seismik. Dari analisis petrofisika diperoleh nilai dari parameter petrofisika berupa volume serpih, porositas, saturasi air, permeabilitas, dan ketebalan *reservoir* berupa *gross*, *net sand*, *net pay*, dan *net to gross*, sedangkan melalui interpretasi seismik diperoleh luas area prospek *reservoir*. Berdasar hal tersebut, semua parameter dapat digunakan untuk menghitung besar cadangan hidrokarbon pada daerah penelitian. Hasil dari penelitian ini didapatkan 3 (tiga) zona prospek *reservoir* dengan nilai volume serpih, porositas efektif, permeabilitas, saturasi air, dan besar cadangan secara berturut-turut pada tiap zona. Zona CGL memiliki nilai 28,16 %, 15,31 %, 26,23 %, 46,1 %, dan 2,094 MMSTB. Zona Q1 memiliki nilai 10,07 %, 8,56 %, 3,86 %, 61,25 %, dan 6,675 MMSCF. Zona F memiliki nilai 46,79 %, 12,68 %, 41,39 %, 60,34 %, dan 4,513 MMSCF.

**Kata kunci:** analisis petrofisika, interpretasi seismik, cadangan hidrokarbon, Cekungan Jawa Barat Utara

## ABSTRACT

### **RESERVOIR PROSPECT ZONE IDENTIFICATION AND HYDROCARBON RESERVE CALCULATION USING PETROPHYSICS ANALYSIS AND SEISMIC INTERPRETATION IN "RFI" FIELD, NORTH WEST JAVA BASIN**

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The North West Java Basin is one of the basins that has been proven to contain hydrocarbons. The research location is in the "RFI" Field, Jatibarang Sub Basin, North West Java Basin with the research focus being on the Conglomerate Jatibarang Formation (CGL), Lower Cibulakan Formation (Q1), and Upper Cibulakan Formation (F). The research uses one well data "RFI-001" and Post Stack Time Migration 3D seismic data. The research well is an exploration well, hopefully can be used a reference well in reservoir characterization and the development of proposed wells in that field. The research aims to determine the reservoir prospect zone and the calculation of hydrocarbon reserves. Calculation of hydrocarbon reserves can be known through petrophysical analysis and seismic interpretation. From the petrophysical analysis, the values of the petrophysical parameters were obtained in the form of clay volume, porosity, water saturation, permeability, and thickness of the reservoir is gross, net sand, net pay, and net to gross, while through seismic interpretation, the prospect area of the reservoir was obtained. Based on this, all parameters can be used to calculate the amount of hydrocarbon reserves in the research area. The results of this study obtained 3 (three) reservoir prospect zones with values of clay volume, effective porosity, permeability, water saturation, and hydrocarbon reserves respectively in each zone. The CGL zone has a value of 28.16%, 15.31%, 26.23%, 46.1% and 2.094 MMSTB. The Q1 zone has a value of 10.07%, 8.56%, 3.86%, 61.25% and 6.675 MMSCF. Zone F has a value of 46.79%, 12.68%, 41.39%, 60.34% and 4.513 MMSCF.

**Keywords:** petrophysical analysis, seismic interpretation, hydrocarbon reserves, North West Java Basin