GEOLOGI DAN KARAKTERISASI RESERVOIR LAPANGAN "VICA" FORMASI BATURAJA CEKUNGAN JAWA BARAT UTARA

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SARI

Cekungan Jawa Barat Utara yang merupakan cekungan belakang busur (*back-arc basin*) dan dikenal sebagai *hydrocarbon province* penting penghasil minyak dan gas bumi di Pulau Jawa. Penelitian ini dilakukan dengan tujuan untuk mengetahui kondisi geologi permukaan dan bawah permukaan, karakterisasi reservoir dan menentukan zona potensi hidrokarbon. Lokasi penelitian terletak di lapangan "VICA" yang berada di perbatasan Indramayu-Majalengka, Jawa Barat. Interval penelitian difokuskan pada Formasi Baturaja Cekungan Jawa Barat Utara. Penelitian ini membahas 4 sumur penelitian yaitu sumur VICA-1, VICA-2, VICA-27, dan VICA-31. Data yang digunakan adalah data *log*, *cutting*, *core*, petrografi, *well test* dan data penunjang lainnya. Metode penelitian ini meliputi studi geologi yaitu analisis geomorfologi; analisis struktur geologi; dan analisis *cutting*, *core*, dan petrografi. Metode studi khusus meliputi analisis *log*, analisis petrofisika dan penentuan zona potensi hidrokarbon. Hasil analisis menunjukan interval penelitian terdiri dari litologi batugamping yang paling dominan dengan sisipan batuserpih, dan batulanau. Penelitian ini terdiri atas satu zona reservoir pada sumur VICA-1 dan dua zona reservoir pada sumur VICA-2, VICA-27, dan VICA-31. Zona reservoir air terdapat pada sumur VICA-1 dan VICA-2, sedangkan zona hidrokarbon terdapat pada sumur VICA-27 dan VICA-31. Berdasarkan hasil penelitian di dapatkan kesimpulan bahwa litologi interval penelitian merupakan satuan batugamping dengan struktur yang berkembang adalah sistem *half-graben* dan antiklin. Sumur dengan nilai karakterisasi reservoir terbaik dan paling prospek terdapat pada sumur VICA-27.

Kata kunci: Geologi, hidrokarbon, petrofisik, reservoir, log

GEOLOGY AND RESERVOIR CHARACTERIZATION OF "VICA" FIELD BATURAJA FORMATION NORTH WEST JAVA BASIN

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ABSTRACT

North West Java Basin is a back-arc basin and is known as an important hydrocarbon province producing oil and gas on Java. This research was conducted with the aim to determine the surface and subsurface geological conditions, reservoir characterization and determine the zone of potential hydrocarbon. The research location is located in the "VICA" field located on the border of Indramayu-Majalengka, West Java. The research interval was focused on the Baturaja Formation of the North West Java Basin. This study discusses 4 research wells, VICA-1, VICA-2, VICA-27, and VICA-31 wells. The data used are log, cutting, core, petrographic, well test and other supporting data. This research method includes geological studies, namely geomorphological analysis; analysis of geological structures; and cutting, core and petrographic analysis. Specific study methods include log analysis, petrophysical analysis and determination of hydrocarbon potential zones. The results of the analysis showed that the research intervals consisted of the most dominant lithology is limestone with intercalate shale and siltstone. This study consisted of one reservoir zone in the VICA-1 well and two reservoir zones in the VICA-2, VICA-27, and VICA-31 wells. Water reservoir zones are found in VICA-1 and VICA-2 wells, while hydrocarbon zones are found in VICA-27 and VICA-31 wells. Based on the results of the research, the conclusion is that the interval lithology is a limestone unit with a developing structure are half-graben and anticline system. The well with the best reservoir characterization value and the most prospect was found in the VICA-27 well.

Keywords: Geology, hydrocarbons, petrophysics, reservoirs, log