

## ABSTRACT

### APPLICATION OF *COMMON REFLECTION SURFACE STACK* METHOD TO INCREASE THE QUALITY OF 2D AND 3D LAND SEISMIC SECTION IN “AOG” FIELD REGION SUBANG, WEST JAVA

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One of the most important things in seismic data processing is stacking. Stacking aims to strengthen of amplitude and increase signal to noise ratio. Conventional method that have been used, namely *CMP* stack and *NMO/ DMO* stack, is very dependent on the speed model and could not overcome complexity of subsurface. So, there is a new stacking method is *Common Reflection Surface (CRS)* stack method. This method does not need velocity model, but included slope of reflector in the estimate stack operator. In this research, *CRS* stack method applied on 2D and 3D land seismic data in “AOG” field region Subang, West Java, where 2D and 3D land seismic data processing by using conventional stacking method that now many applied in industry felt often not enough to describe the complex subsurface condition. The purpose of this research, which is to get the most optimal stack section and analyzing parameter of *dip* and *aperture* that influence the measured seismic data, comparing land seismic section 2D and 3D data processing result with conventional method and *CRS* stack, and comparing land seismic section 2D and 3D data processing result with *CRS* stack method.

Process of stacking on 2D and 3D *CRS* influenced by *dip* and *aperture* in the *CRS* operator, so that the result obtained the most optimal stack section. By comparing seismic section conventional method and *CRS* stack, so the resulted seismic section that show the better continuity of reflector and amplitude increased by using the *CRS* stack method on 2D and 3D data is compared conventional method. Meanwhile, the result seismic section of 3D *CRS* stack show increase image of subsurface structure that significant and reinforce the pattern of reflector better than 2D *CRS* stack. From this research result, qualitatively *CRS* stack method able to describe subsurface structure to produce seismic section that have better quality compared with conventional method, in the application of 2D and 3D land seismic data.

Keywords: *Stacking*, *CRS stack*, Conventional Method, Continuity of Reflector