

ABSTRAK

PENERAPAN METODA 2D SURFACE RELATED MULTIPLE ELIMINATION (SRME) UNTUK MENGURANGI EFEK WATER BOTTOM MULTIPLE PADA DATA LINTASAN “ABILA”

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Multiple merupakan salah satu macam *noise* yang sering muncul pada rekaman data seismik terutama pada data seismik *marine*. Keberadaan *multiple* masih menjadi masalah serius pada tahap pengolahan data seismik karena energi *multiple* membuat energi *primary* tidak fokus. *Multiple* terjadi karena adanya koefisien refleksi negatif. *Multiple* umumnya terdiri dari dua macam yakni *internal multiple* dan *surface related multiple*. Pada data seismik marine jenis *surface related multiple* yang sering muncul adalah *water bottom multiple*.

Tujuan penerapan metoda 2D *Surface Related Multiple Elimination* (SRME) pada data lintasan “ABILA” yakni untuk mengurangi efek dari *water bottom multiple*. Metoda SRME dipilih karena memiliki kelebihan dapat mengurangi efek *multiple* yang memiliki perilaku *moveout* hampir sama dengan *primary*-nya.

Hasil yang diperoleh dari penerapan metoda 2D SRME menunjukkan efek *water bottom multiple* pada data *near-offset* berkurang, sedangkan pada data *far-offset* efek *water bottom multiple* masih terlihat jelas. Metoda 2D SRME mampu mengurangi efek *multiple* yang diakibatkan oleh permukaan *water bottom* yang relatif datar. Sedangkan untuk *multiple* yang diakibatkan oleh permukaan *water bottom* yang berundulasi atau memiliki kemiringan lapisan yang cukup besar, metoda 2D SRME kurang berhasil mengurangi efek tersebut.

Kata kunci : *Multiple, Water bottom, Metoda 2D SRME*

ABSTRACT

APPLICATION OF 2D SURFACE RELATED MULTIPLE ELIMINATION (SRME) METHOD FOR REDUCING WATER BOTTOM MULTIPLE EFFECT AT “ABILA” LINE

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Multiple is one kind of noise that often appears on the seismic recorded especially in marine seismic data. The presence of multiple still be a serious problem at seismic data processing because multiple will affected the energy of primary. Main causes of multiple is negative value of reflection coefficient. Multiple generally occurred in two types they were internal multiple and surface related multiple. In marine seismic data, the type of surface related multiple that often appears was water bottom multiple.

The objective of application of 2D Surface Related Multiple Elimination (SRME) method at “ABILA” line was to reduce water bottom multiple effect. SRME method was chosen because it had an advantage that can reduce multiple effect with similar behavior moveout to its primary.

The results of application 2D SRME method showed that water bottom multiple effect in near-offset was reduced, while in far-offset the effect of water bottom multiple was still clearly visible. 2D SRME method can reduced multiple effects that was caused by relatively flat surface of water bottom. Nevertheless multiple caused by undulate water bottom and large dipping water bottom, this method cannot reduce the effect well.

Key words : *Multiple, Water bottom, 2D SRME method*