DEEP REFLECTION SEISMOLOGY OF THE OIMYAKON EARTHQUAKE ZONE HYPOCENTERS

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Deep seismic sounding (DSS) has been performed through the series of industrial blasts in the Inyali-Debin synclinorium. The target was to register the refraction waves from the M boundary and higher. Waves were recorded simultaneously at the distance and near the every blast. The northern part of profile is located near the epicenter of the greatest in north-east the Oimyakon earthquake of magnitude 9. Here pits, where blasts were carried out, were located at the distance of 40km one from another. Deep reflection waves were registered at the small distances among these points of blasts. Their analysis made possible to establish their relation to seismic boundaries that simultaneously were refraction ones: M, K, basement of the Verkhoyansky assemblage, and its roof where coal-bearing sediments occurred. Besides, reflection wave was recorded from horizon 21.7-24km deep. At this depth refraction boundary is absent. Data of seismology, deep magnetotelluric sounding (MTS) make possible to consider this refraction to be related to the low velocity waveguide . Waveguide is confided to the attenuated zone, where earthquake hypocenters are located. By the dynamic features, waveguide thickness is the first hundreds meters. By the data of deep MTS , zone of low electric resistance occurs at the same depth. It was not possible to determine the value of the stratum velocity in the waveguide because of its small thick layer. Outside the Oimyakon seismogene zone, this reflection wave is absent. The latter testifies to the absence of waveguide.