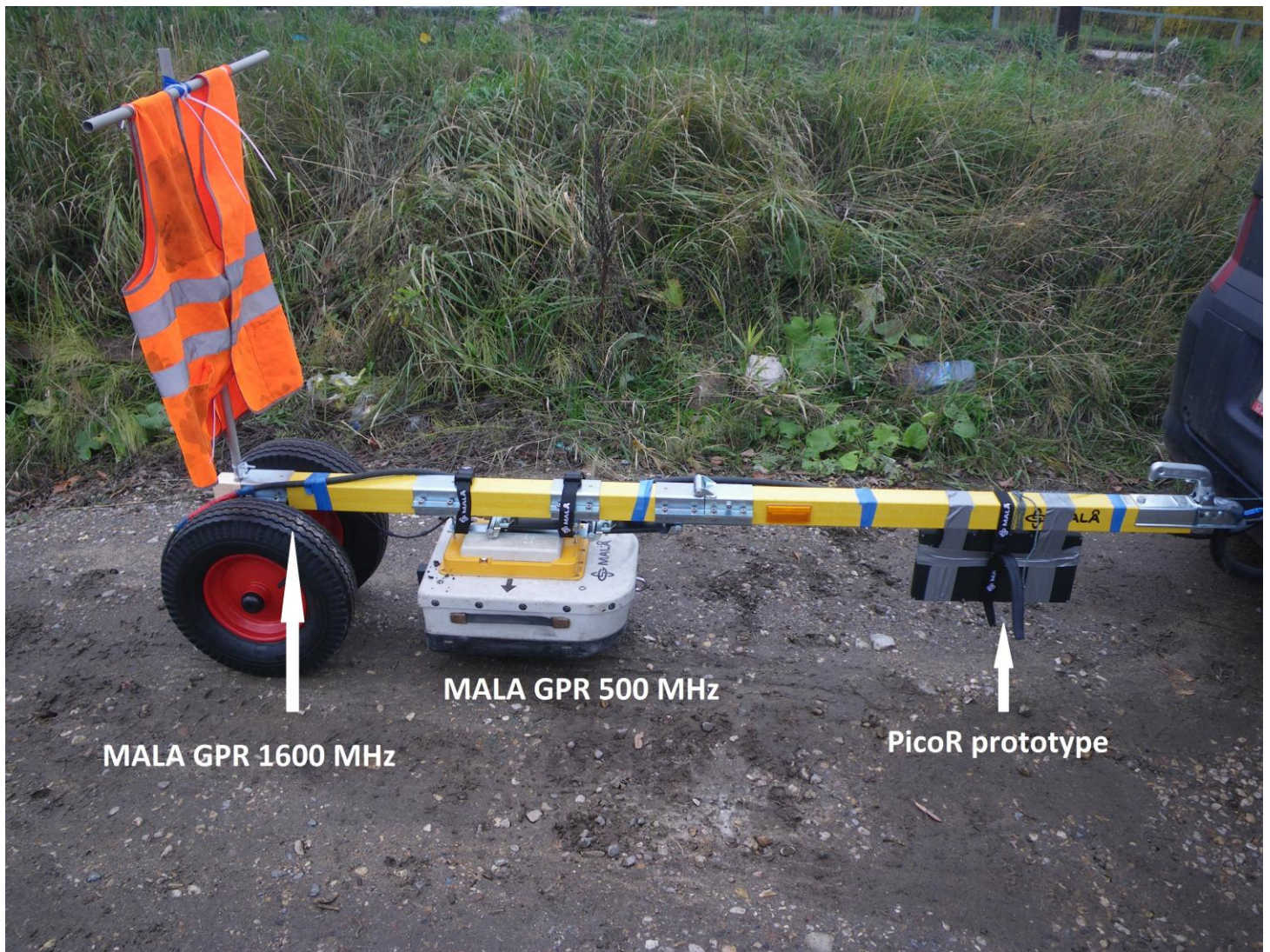


Figure of devices mounting for standard mount for MALA GPR to the vehicle



Post processing of the recorded data was performed in the RadExplorer software after exporting data from the PicoR software.

We tested PicoR prototype version. Current version of PicoR GPR is working better with much more lower noise level.



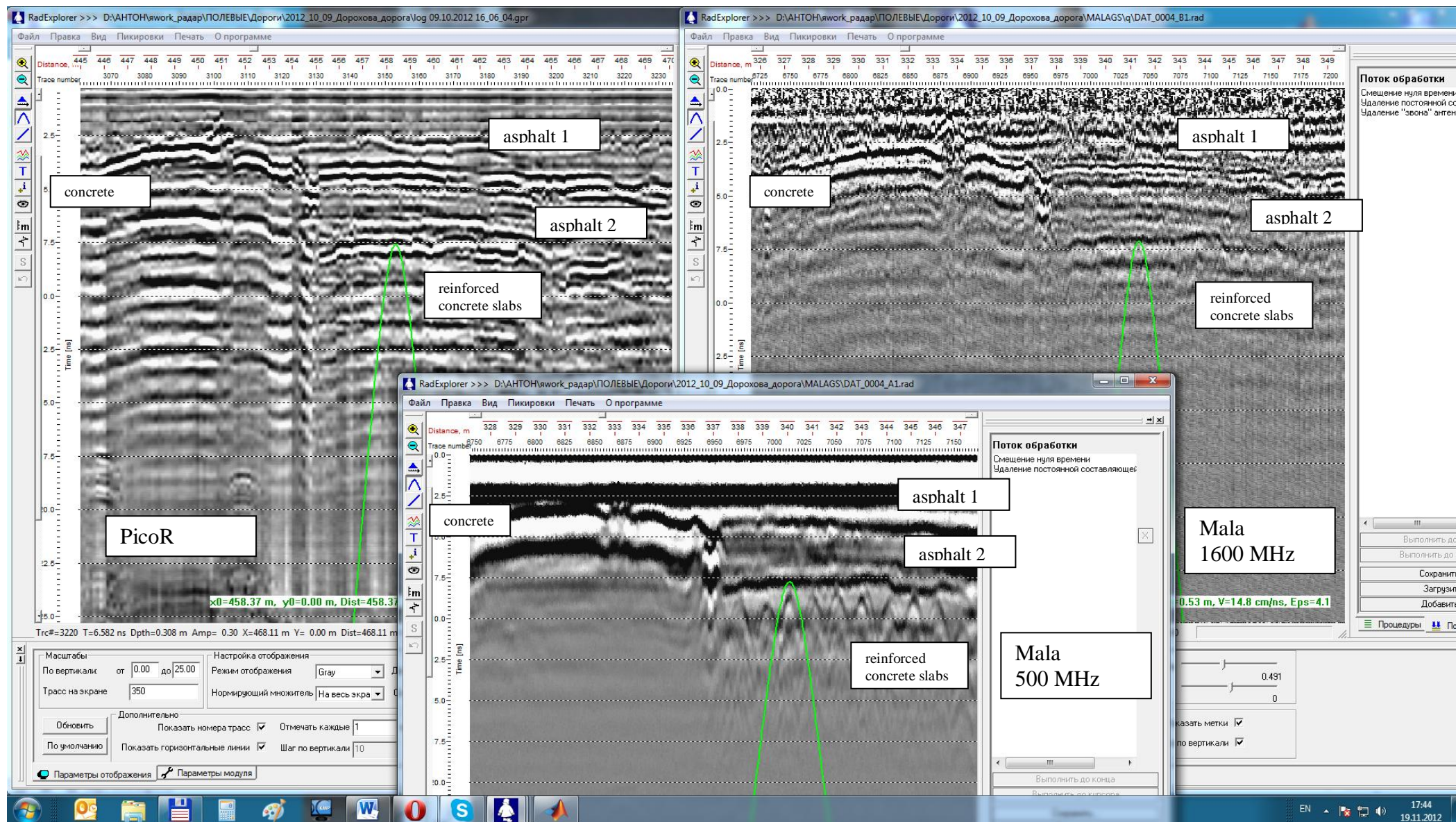


Fig. 1. The sharp drop of asphalt thickness (from 15 cm to 55 cm) - step. On radargram on the antenna 500 MHz Mala Geoscience we can see the joints between the reinforced concrete slabs. On radargram of PicoR stands sole asphalt at all depths. Very noisy signal.



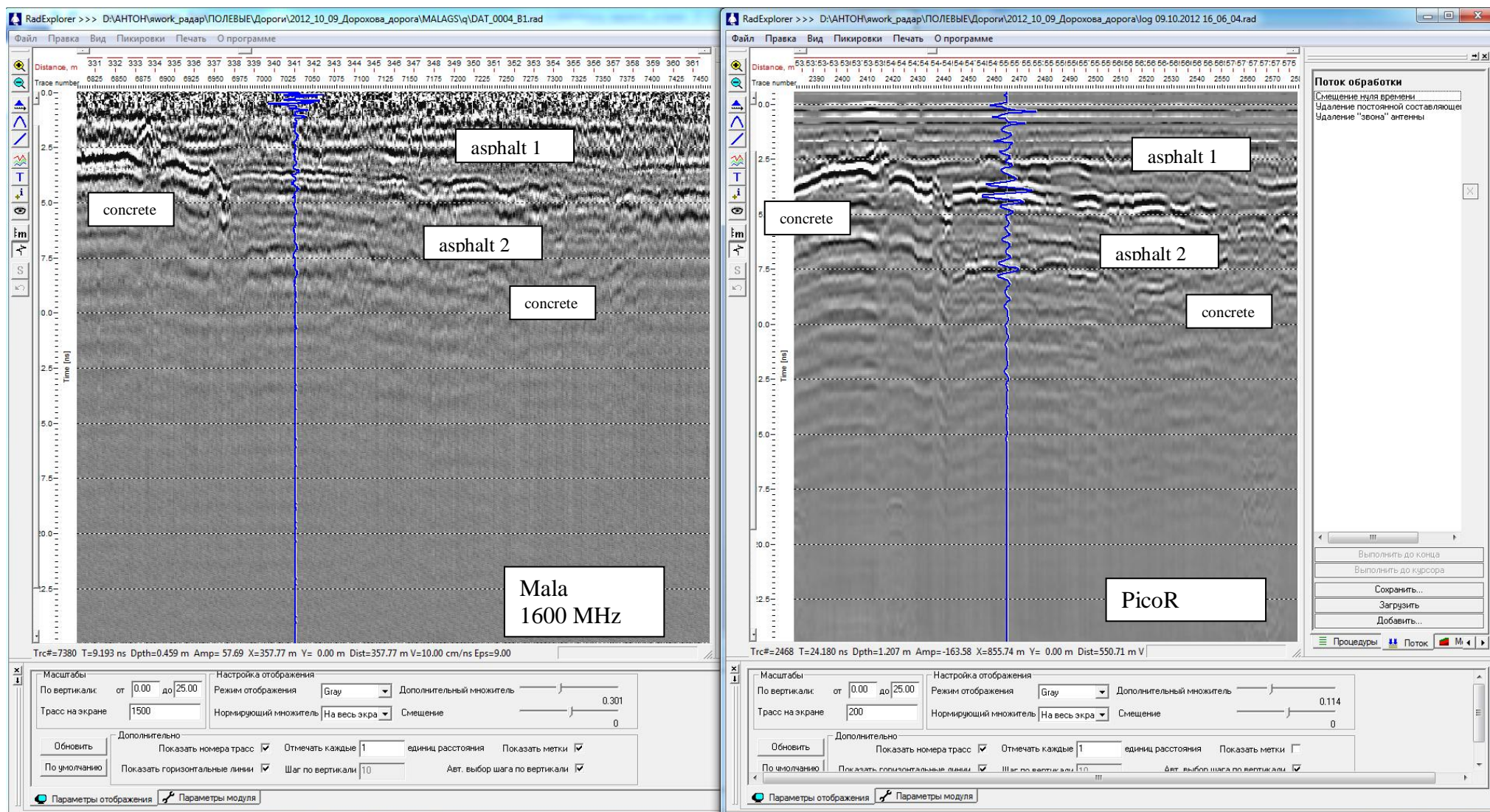


Fig. 1b. The sharp drop of asphalt thickness (from 15 cm to 55 cm) - step. On radargram of PicoR stands sole asphalt on both depths.



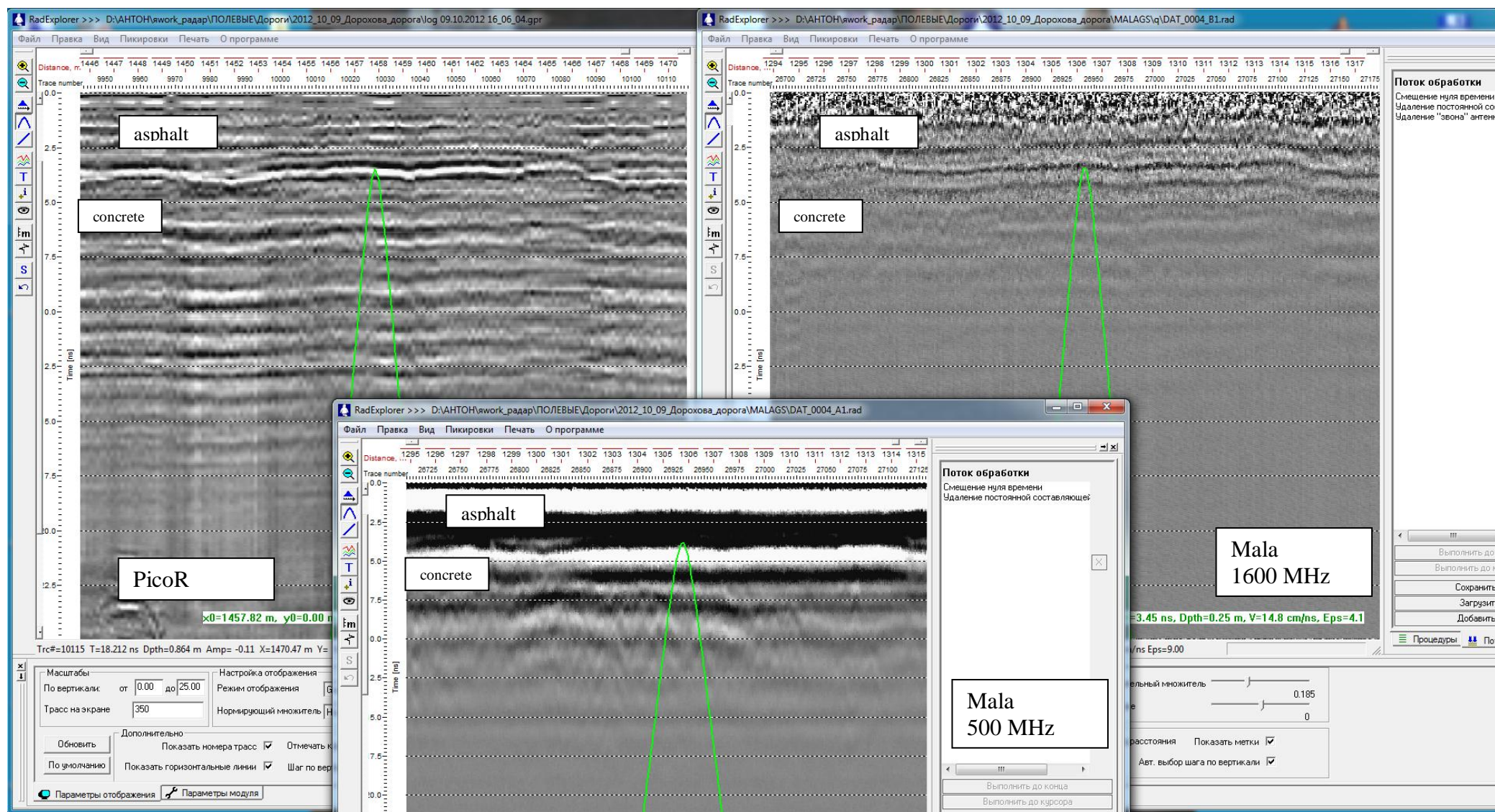


Figure 2. Sole asphalt at a depth of 25 cm reflecting boundary (base asphalt) stands out clearly at all radargrams. On radargram of PicoR from this border can be seen multiple rereflection ("ringing antenna"). On radargram obtained with the antenna unit 500 MHz boundary noised intense signal from the first boundary (lack of resolution)



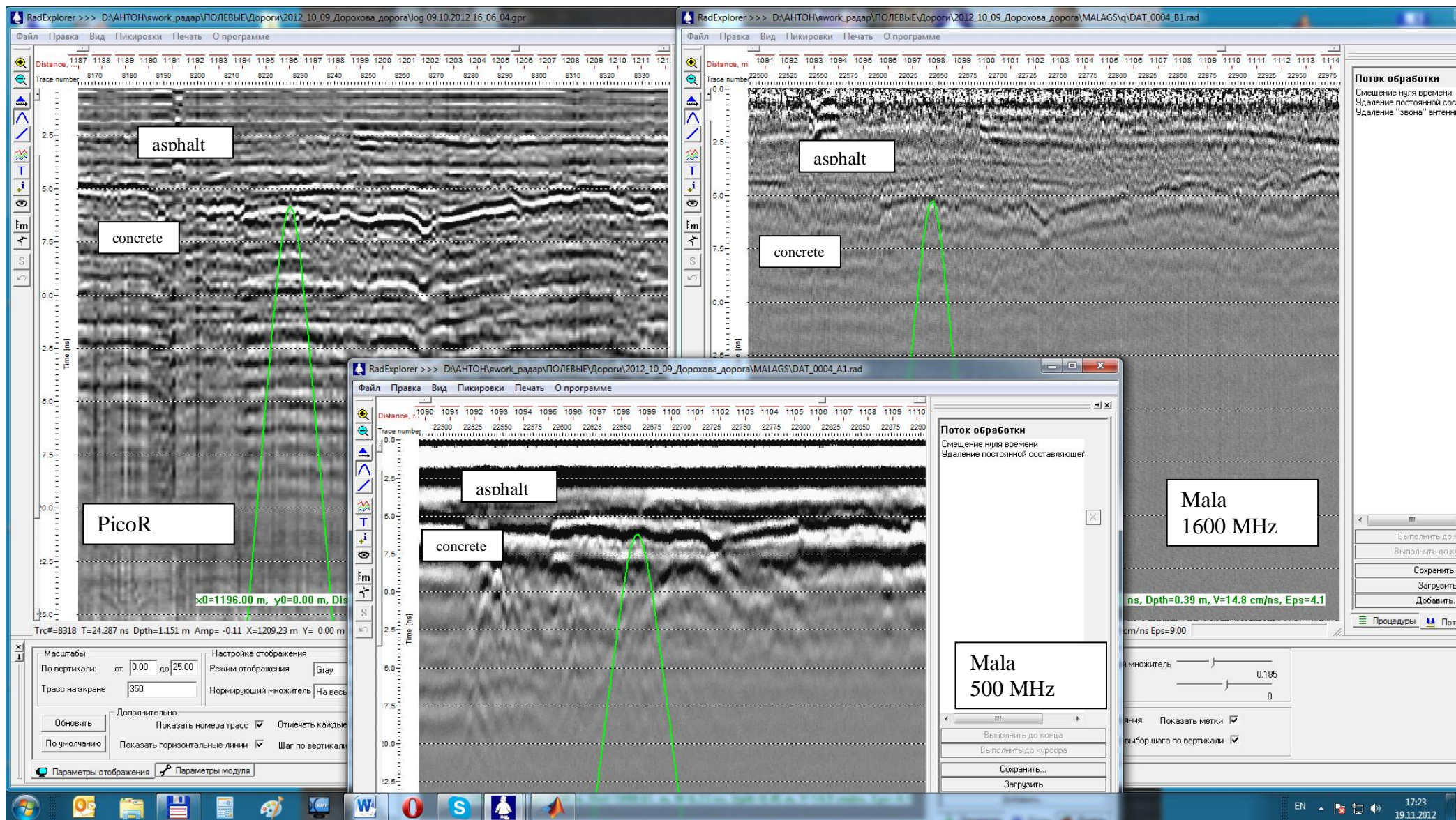


Figure 3. Soles asphalt at a depth of 40 cm on the basis of macadam. According PicoR released two boundaries (base and intermediate asphalt in the asphalt). On radargram obtained with the antenna unit 500 MHz is allocated layer of macadam.



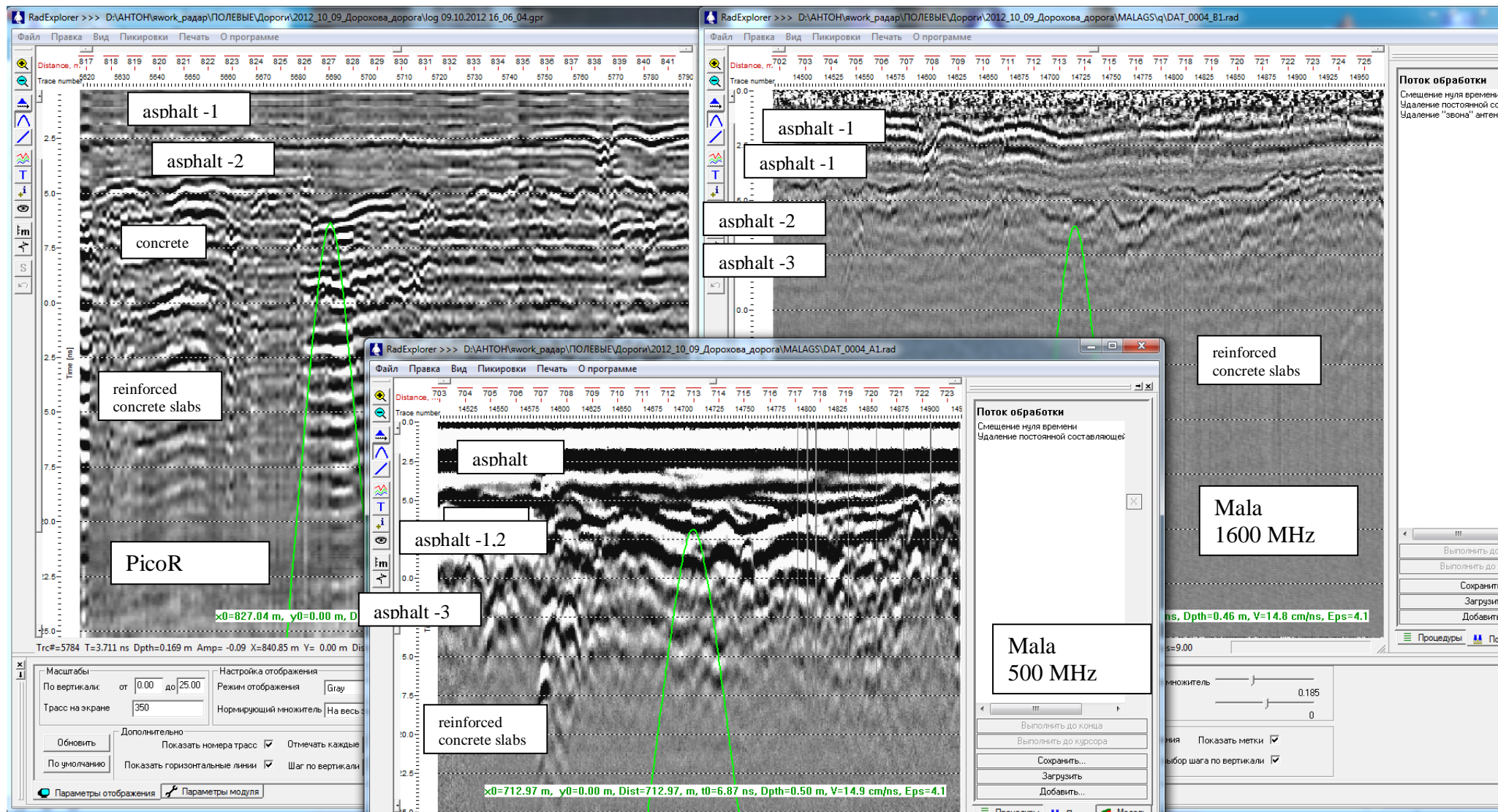


Figure 4. Sole asphalt at a depth of 50 cm, the broken structure. Radargrams obtained PicoR module contains a lot of noise. On radargram obtained with 500 MHz antenna unit is well traced structure underlying thickness

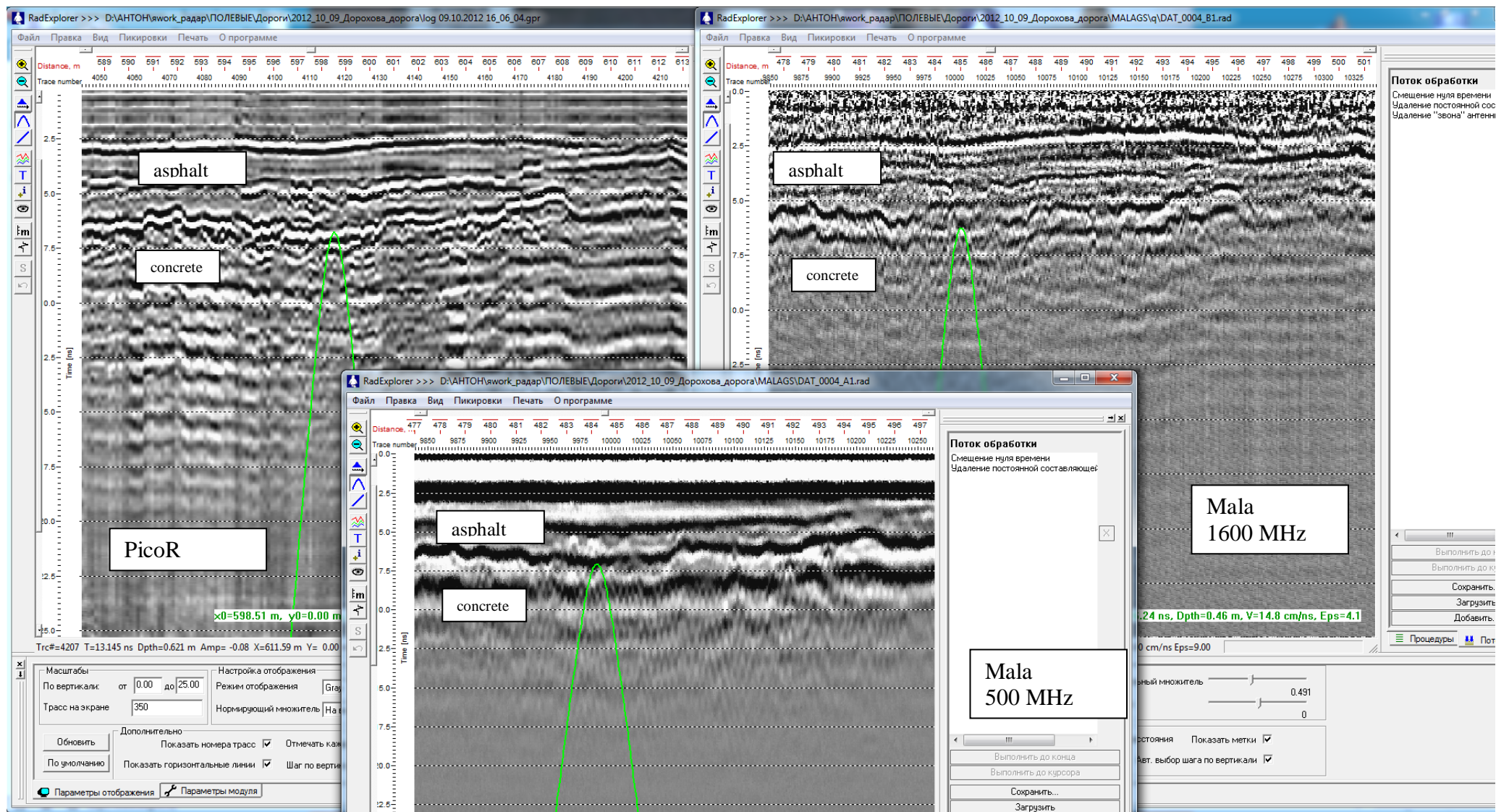


Figure 5. Sole asphalt at a depth of 50 cm, under which reinforced concrete slabs. On radargram obtained with the antenna unit 500 MHz allocated hyperbole from reinforcement / joints slabs. On radargram obtained with PicoR allocated only sole asphalt



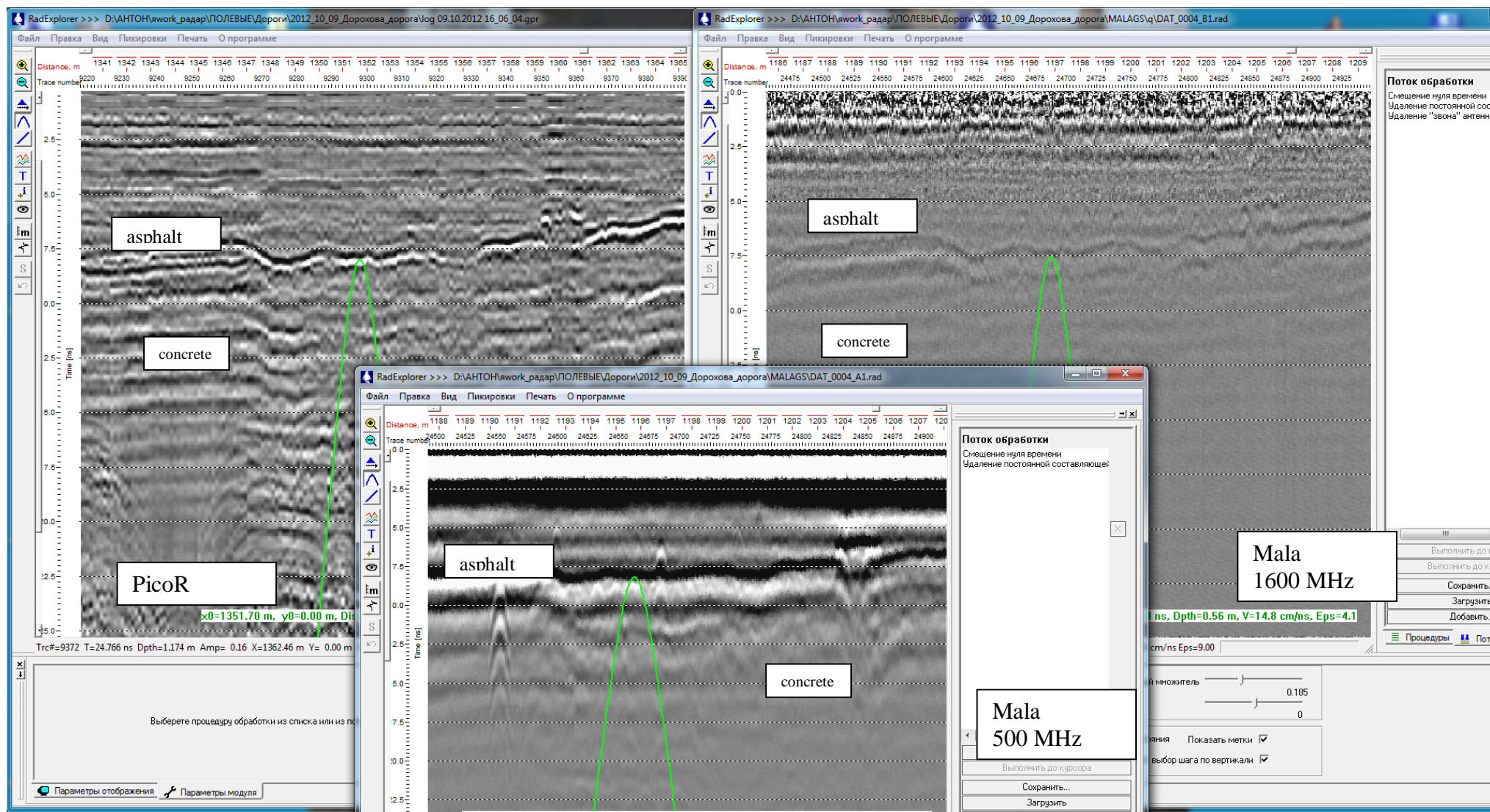
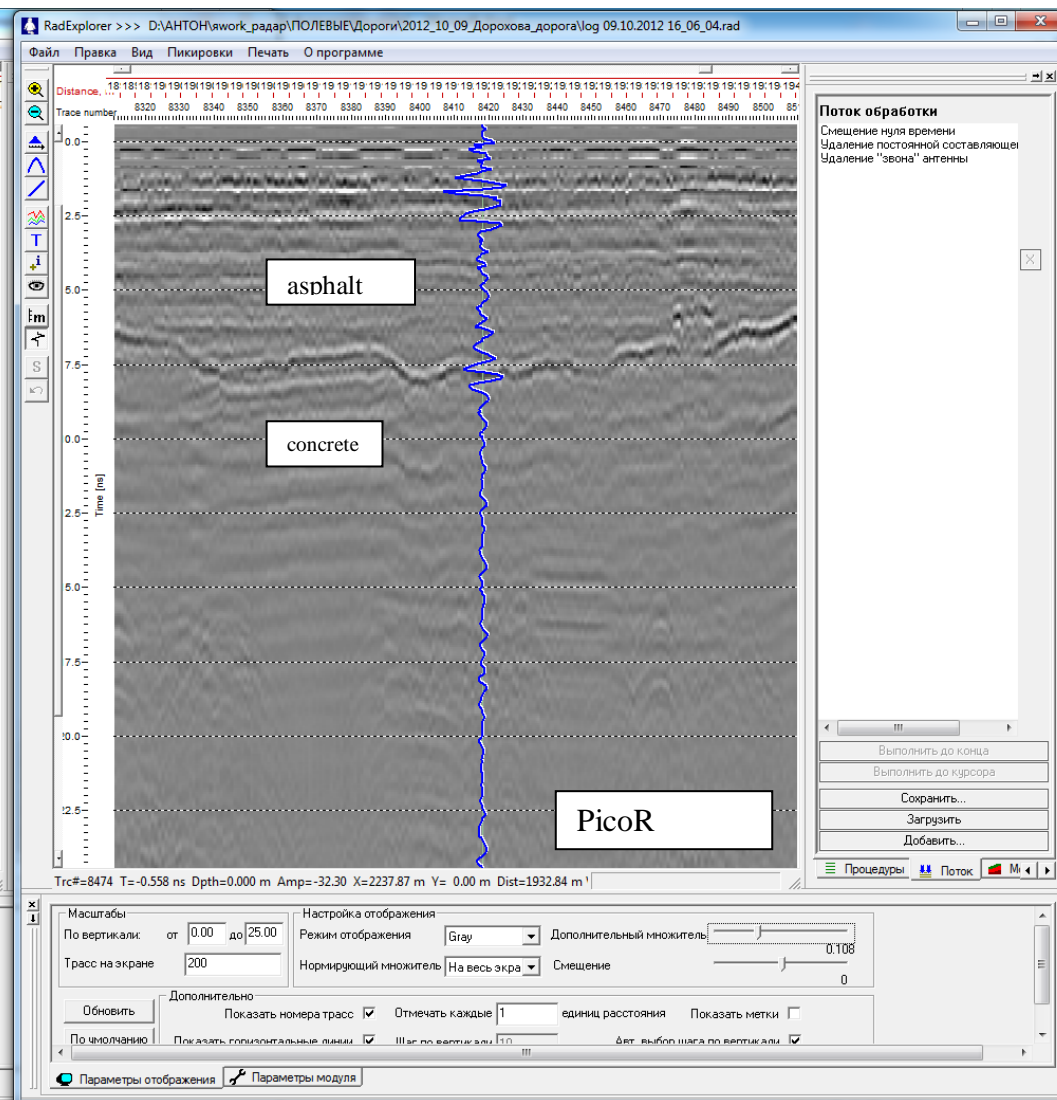
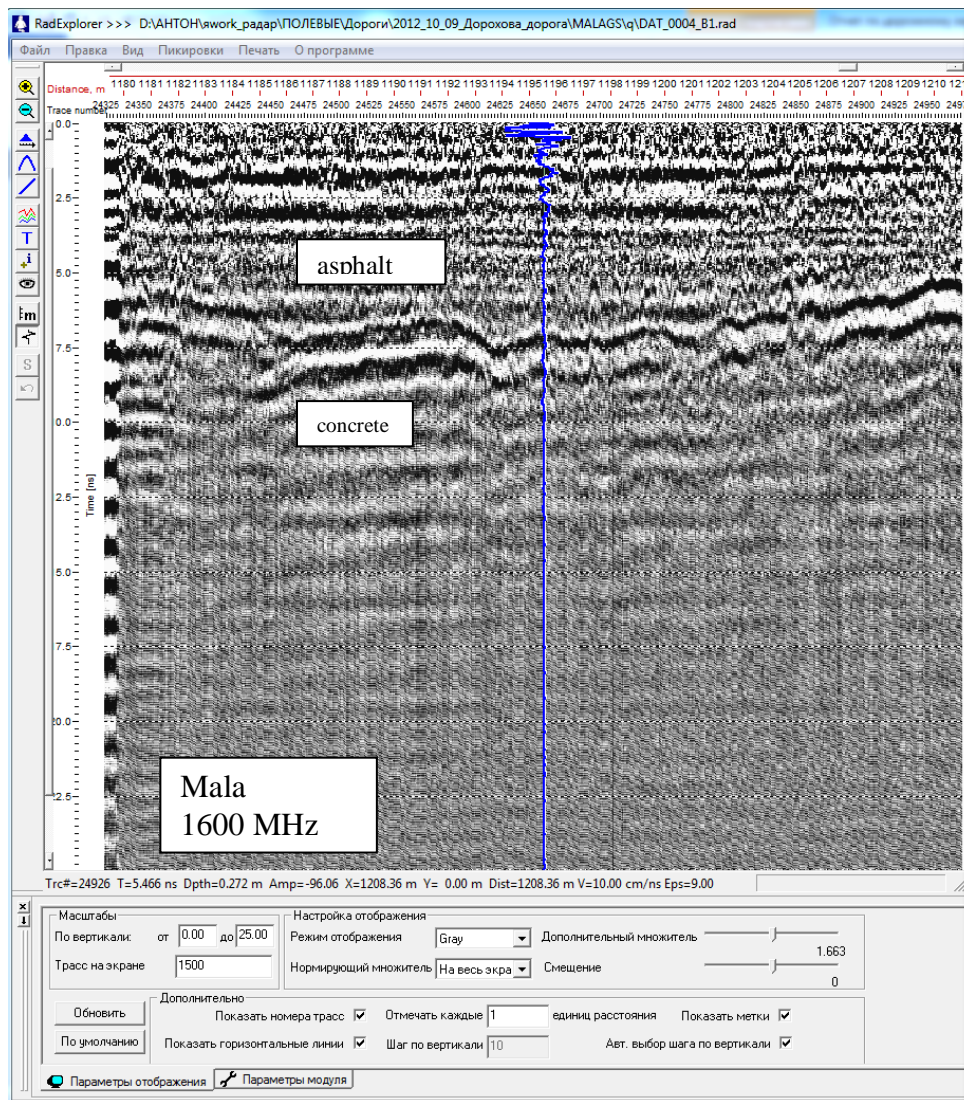


Fig.6 Sole asphalt at a depth of 60 cm on all radargrams reflection from the base of the asphalt layer is quite a contrast. Maximally informative radargram obtained with 500MHz antenna unit.





Ris.6b Sole asphalt at a depth of 60 cm. Contrast of reflection is higher for module PicoR



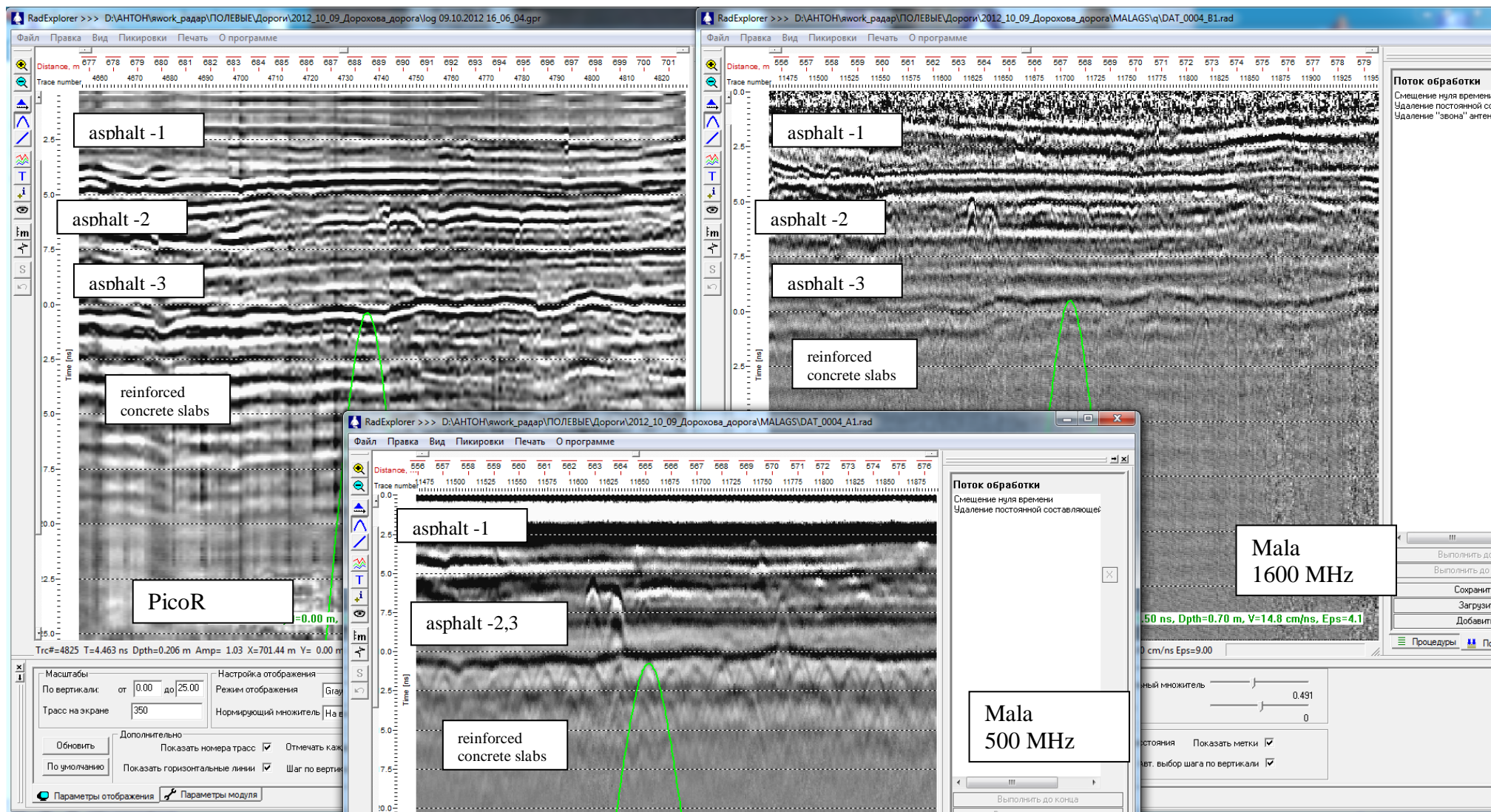


Figure 7. The depth of 75 cm asphalt soles, underlayment - reinforced concrete slabs



