We report interpretations of regional seismic lines and new data of analyses of rocks from Alpha-Mendeleev Rise. A new magmatic province is documented at the bottom of the North Chukchi Basin. Seismic data demonstrate synrift basalt sequences (half-grabens with bright reflectors) and a number of intrusions. The seismic stratigraphic age of the magmatism is ca. 125-100 Ma. Seismic data show evidence of magmatism in the area of De Long High. Basalts have isotopic ages on De Long islands of ca. 130-105 Ma. A huge magmatic province exists in the Barents Sea. Seismic data show a basalt province to the SE from Franz Josef Land. The two-way travel time of the basalt unit is 100 ms. The age of the basalts is ca. 125 Ma from correlation with borehole data. The area is enriched by intrusions of the same age. Similar magmatic provinces are known on Svalbard and the Canadian Archipelago. We recognize half-grabens and/or SDR complexes along the Mendeleev Rise. The dip of SDRs is toward the Podvodnikov and Toll basins. The Mendeleev Rise has an axial line which separates differently dipping SDRs. Half-grabens are filled with clastic rocks and basalts with ages ca. 127-110 Ma (Skolotnev et al. in preparation, and our correlations with seismic data). The Podvodnikov and Toll basins have SDR complexes also. The dipping of the SDRs is toward the axial lines of these basins, and the lines are parallel to the Mendeleev Rise axial line. We propose that intraplate, ca. 125 Ma basalt magmatism started between the Eurasian continent (including the Lomonosov and Alpha-Mendeleev terranes) and the Canada Basin (which formed before 125 Ma). This was followed by concentration of rifting and magmatism along Alpha-Mendeleev Rise and the adjacent Podvodnikov, Nautilus and Toll basins. These processes were aborted at ca. 100 Ma as a result of plate kinematic reorganization. Additional intraplate magmatism took place at 90-80 Ma. We propose that Alpha-Mendeleev Rise is a Eurasian aborted double-sided volcanic passive continental margin with stretched and hyper-extended continental crust intruded by basalts. This work was supported by RFBR grants (18-05-70011 and 18-05-00495).