

Scour and deposition by the 2011 Tohoku-oki tsunami at Takata-matsubara in Rikuzentakata City, Japan

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The behavior of the 2011 Tohoku-oki tsunami at the Takata-matsubara in Rikuzentakata city was reconstructed using sedimentary facies analysis, grain size properties and magnetic fabric were summarized as follows;

- 1) Vertical variations in grain size of the tsunami deposits show ten and several tsunami inflows and outflows of the tsunamis.
- 2) The deposits were mainly formed by backwash of the tsunami based on the paleocurrent analysis using magnetic fabric measurements.
- 3) The tsunami flow over the artificial sea wall and destroyed the sea wall with large scours on ground surface. Following ten and several tsunamis with minor wave height can ran-up in order to destroying the sea wall.

Keywords: tsunami deposits, Rikuzentakata City, shooting flow, hydraulic jump, Takata-matsubara, Seawall