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The oldest coarse-grained deep-water deposits of the Upper Cretaceous Cerro Toro Formation in the Silla Syncline section record cycles of repeated channel incision and filling and include the development of one major sheet sandstone interval. These units are interpreted to have been deposited in an elongate basin located between the front of the fold-and-thrust belt to the west and an eastern structural high. Three coarse-grained members, informally termed Pehoe, Paine and Nordenskjöld members from base to top, are present in this section. This study focuses on the Pehoe member, which includes a lower channel complex (Pehoe A), the Pehoe A sheet sandstone, and the Pehoe B channel complex, from oldest to youngest. The Pehoe A channel was eroded into the underlying thin-bedded sandstone and mudstone and filled up to 80 m with conglomeratic and sandy high-density turbidity current deposits. It extends over the entire length of the Silla Syncline area (12 km). The overlying Pehoe A sandstone section is 60-100 m thick, and composed of stacked tabular turbidites lacking evidence of scour and erosion. These sandstones appear to have been deposited in a non-channelized setting. Unidirectional paleocurrents directed to the southeast suggest that these sands were also confined at the mini-basin scale by the basin margin topography but were otherwise deposited as unconfined sheets. The overlying...
Pehoe B channel complex, which reaches 180 m thick, rests with non-erosional contacts on the sandstone sheet units but is incised into a mudstone section to the east. Its lower part is filled with clast-supported conglomerate that grades into a debris-flow-dominated upper section with isolated clast-supported conglomerate lenses. Debris flowage within the channel was approximately contemporaneous with extensive sliding and slumping in the adjacent out-of-channel areas.

The Pehoe member of the Silla Syncline formed through repeated channel incision and filling within a structural low developed along the edge of the Andean fold-and-thrust belt in the Magallanes retroarc foreland basin. The succession includes two conglomerate-filled channels. The lower one is capped by a widespread sandstone sheet, perhaps representing backstepping of a splay into the mini-basin. The upper channel conglomerate is capped by mass transport deposits, suggesting a decline in conglomerate activity and increased mud deposition but with little or no sand splay development. These represent contrasting modes of channel evolution within this basin.