

Land reflection seismic, hydrogeological and magnetic study of an area prone to quick-clay landslides in southwest Sweden

SND-ID: snd1079-1. **Version:** 2. **DOI:** <https://doi.org/10.57804/hxj1-8b75>

Download data

groundwater_table.txt (1.67 MB)

magnetic_data.txt (5.91 MB)

Modeled_interfaces_xyz/bedrock.txt (34.28 MB)

Modeled_interfaces_xyz/bottom_coarse.txt (20.58 MB)

Modeled_interfaces_xyz/top_coarse.txt (16.21 MB)

Reflection_seismic_2013/line2.segy (1.41 MB)

Reflection_seismic_2013/line5_wireless.segy (179.09 KB)

Reflection_seismic_2013/line5.segy (4.42 MB)

Reflection_seismic_2013/line6.segy (682.59 KB)

Reflection_seismic_2013/line7.segy (517.34 KB)

Associated documentation

README.txt (2 KB)

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snd1079-1-2.zip (~85.82 MB)

Citation

Salas Romero, S., Malehmir, A., Snowball, I., & Dessirier, B. (2025) Land reflection seismic, hydrogeological and magnetic study of an area prone to quick-clay landslides in southwest Sweden (Version 2) [Data set]. Uppsala University. Available at: <https://doi.org/10.57804/hxj1-8b75>

Creator/Principal investigator(s)

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Description

Quick-clay landslides are common geohazards in Nordic countries and Canada. The presence of potential quick clays is confirmed using geotechnical investigations, but near-surface geophysical methods, such as seismic and resistivity surveys, can also help identifying coarse-grained materials associated to the development of quick clays.

We present the results of four reflection seismic profiles next to the Göta River in Sweden, along which many quick-clay landslide scars exist. An extensive coarse-grained layer exists in the sedimentary sequence and is interpreted and modeled in a regional context. Hydrological modeling of the coarse-grained layer is performed. Magnetic data are also studied within this investigation.

Four reflection seismic profiles collected in 2013 (line 5 has two parts, cabled geophones and wireless stations).

Data contains personal data

No

Language

[English](#)

Time period(s) investigated

2018-01-01 – 2018-03-05

Data format / data structure

[Other](#)

Geographic spread

Geographic location: [Sweden](#), [Västra Götaland County](#)

Responsible department/unit

Department of Earth Sciences

Research area

[Earth and related environmental sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Geoscientific information](#) (INSPIRE topic categories)

Keywords

[Landslides](#), [Hydrology](#), [Electric/magnetic field exposure](#), [Seismic profile](#)

Publications

Salas-Romero, S., Malehmir, A., Snowball, I., & Dessirier, B. (2019). Subsurface characterization of a quick-clay vulnerable area using near-surface geophysics and hydrological modelling. *Solid Earth*, 10(5), 1685–1705.

DOI: <https://doi.org/10.5194/se-10-1685-2019>

Polygon (Lon/Lat)

10.963187, 59.262034

10.963187, 57.14008

14.714817, 57.14008

14.714817, 59.262034

10.963187, 59.262034

Accessibility level

Access to data through SND
Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

Versions

Version 2. 2025-01-17
[Version 1.0.](#) 2019-01-14

Download metadata

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[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

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