

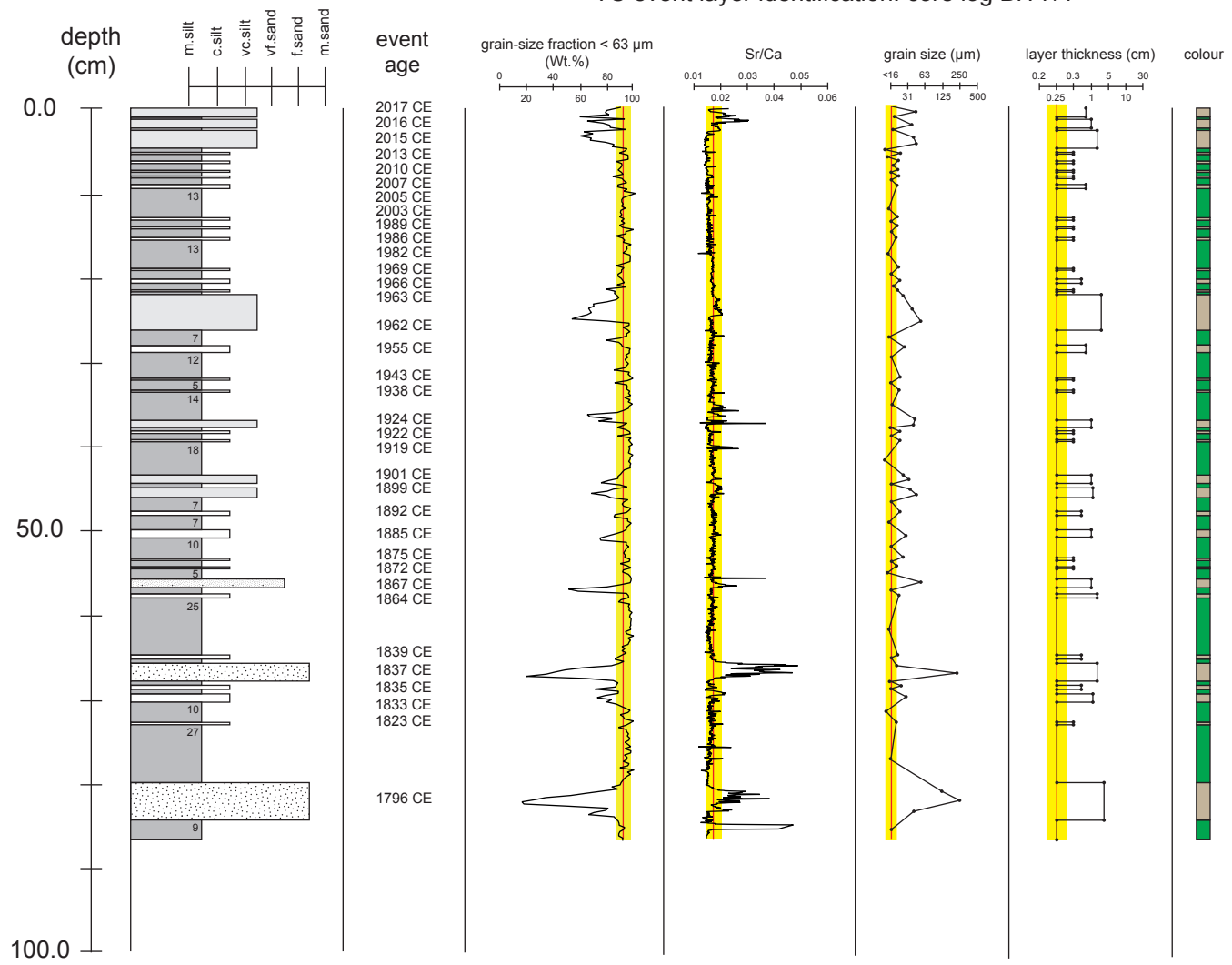
Caribbean cyclone activity – an annually-resolved Common Era record

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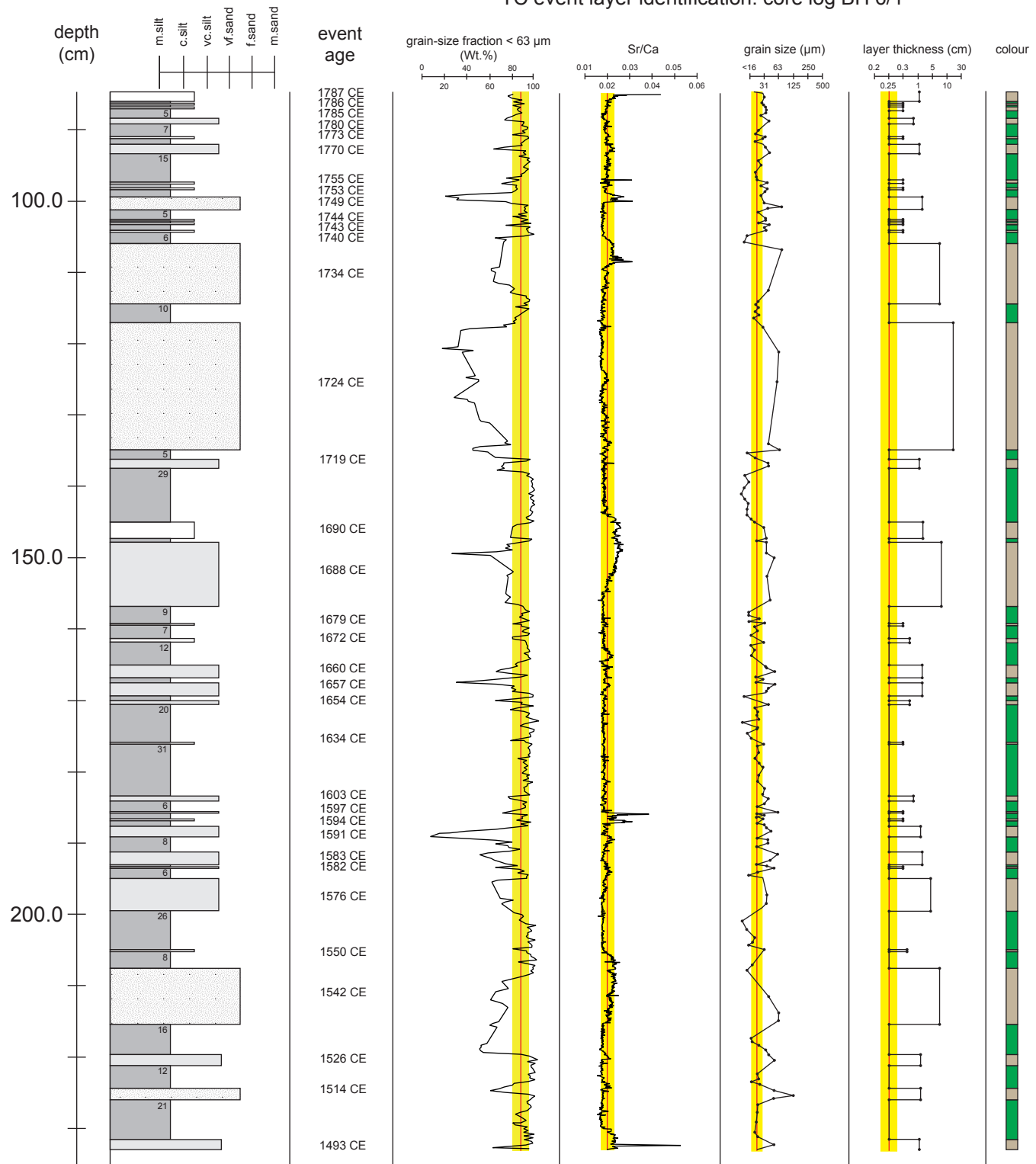
Suppl.-figures and Suppl.-tables

Suppl. 1: Seven core log files in chronological order (BH7/1, BH6/1, BH6/2, BH6/3, BH6/4, BH6/5, BH6/6). The multi-proxy-approach of TC identification was conducted on the basis of textural data (grain size fraction $<63 \mu\text{m}$, layer thickness and mean grain size), Sr/Ca ratios and sediment colour.

TC event layer identification: core log BH 7/1



TC event layer identification: core log BH 6/1



depth (cm)

m. silt
c. silt
vc. silt
vf. sand
f. sand
m. sand

event age

grain-size fraction < 63 μm (Wt.%)

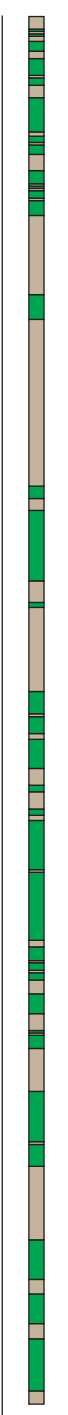
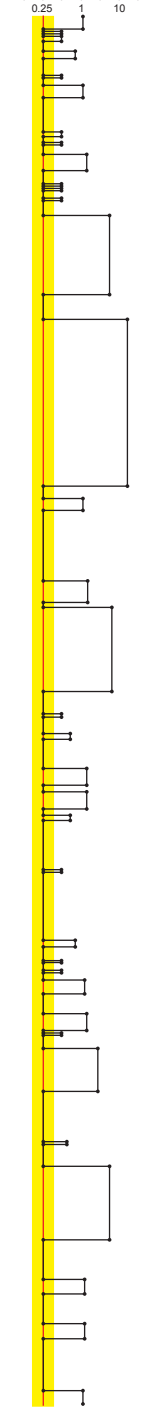
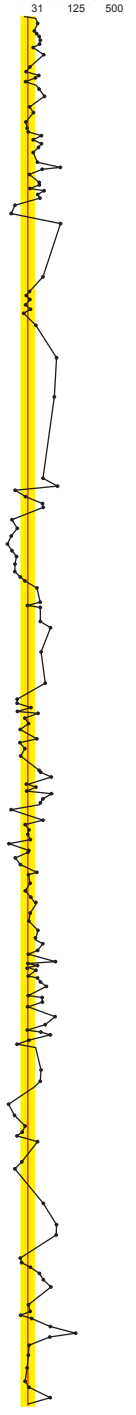
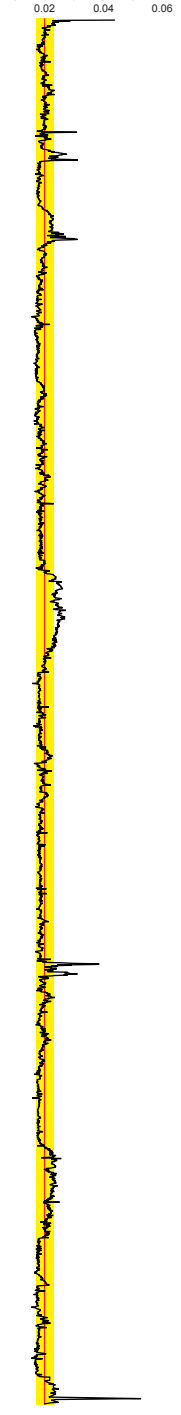
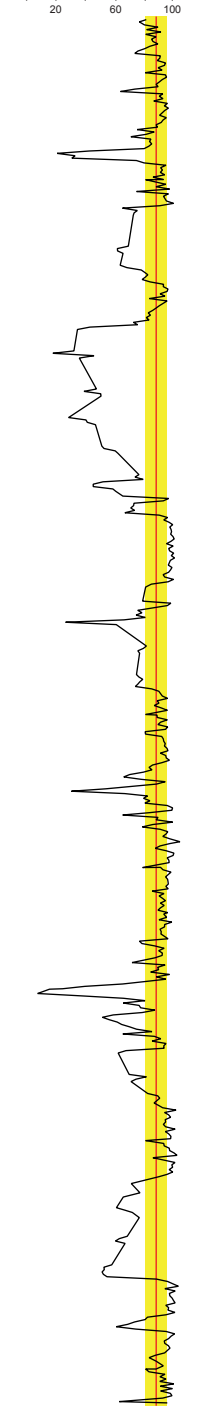
Sr/Ca

grain size (μm)

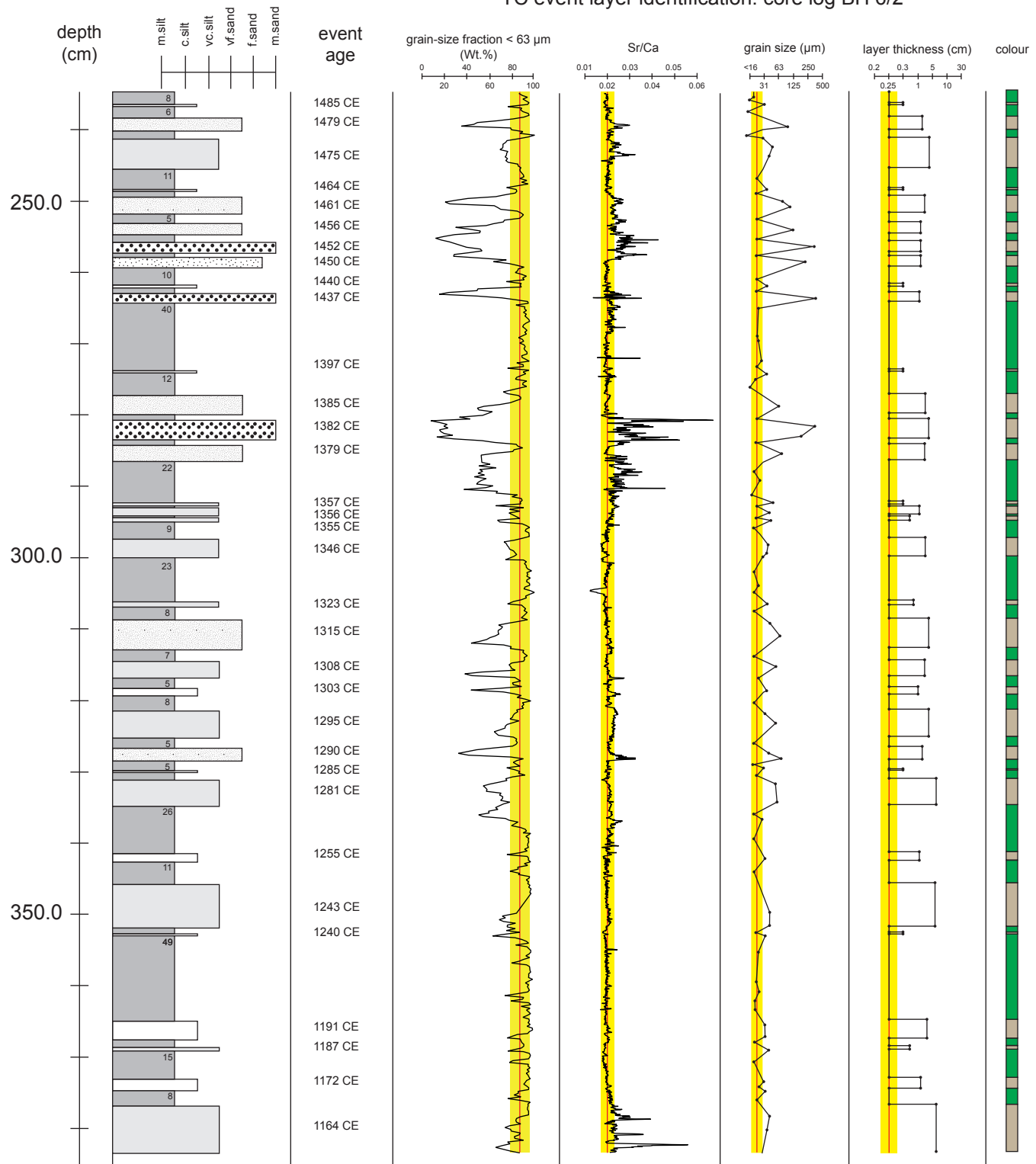
layer thickness (cm)

colour

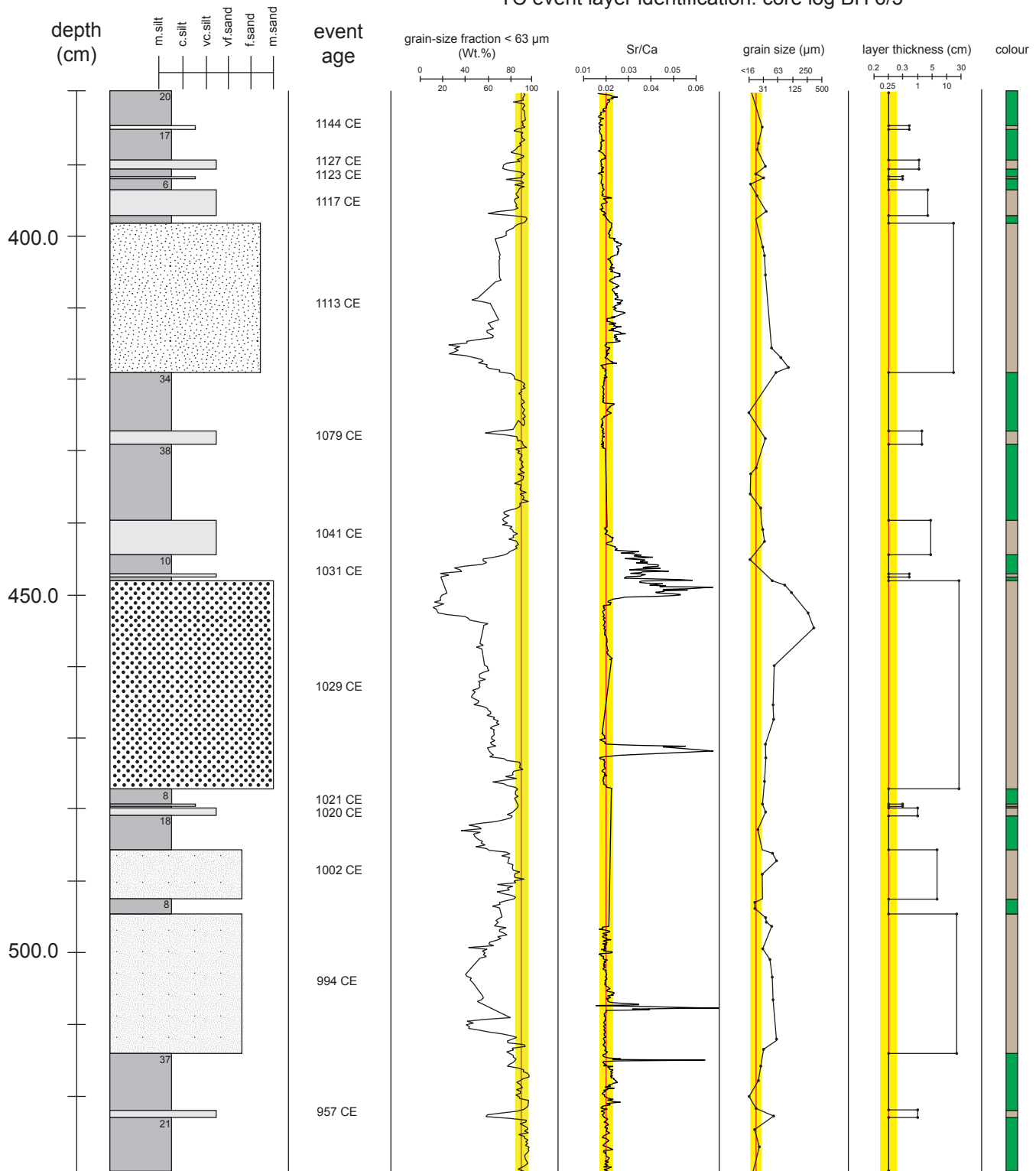
- 1787 CE
- 1786 CE
- 1785 CE
- 1780 CE
- 1773 CE
- 1770 CE
- 1755 CE
- 1753 CE
- 1749 CE
- 1744 CE
- 1743 CE
- 1740 CE
- 1734 CE
- 1724 CE
- 1719 CE
- 1690 CE
- 1688 CE
- 1679 CE
- 1672 CE
- 1660 CE
- 1657 CE
- 1654 CE
- 1634 CE
- 1603 CE
- 1597 CE
- 1594 CE
- 1591 CE
- 1583 CE
- 1582 CE
- 1576 CE
- 1550 CE
- 1542 CE
- 1526 CE
- 1514 CE
- 1493 CE



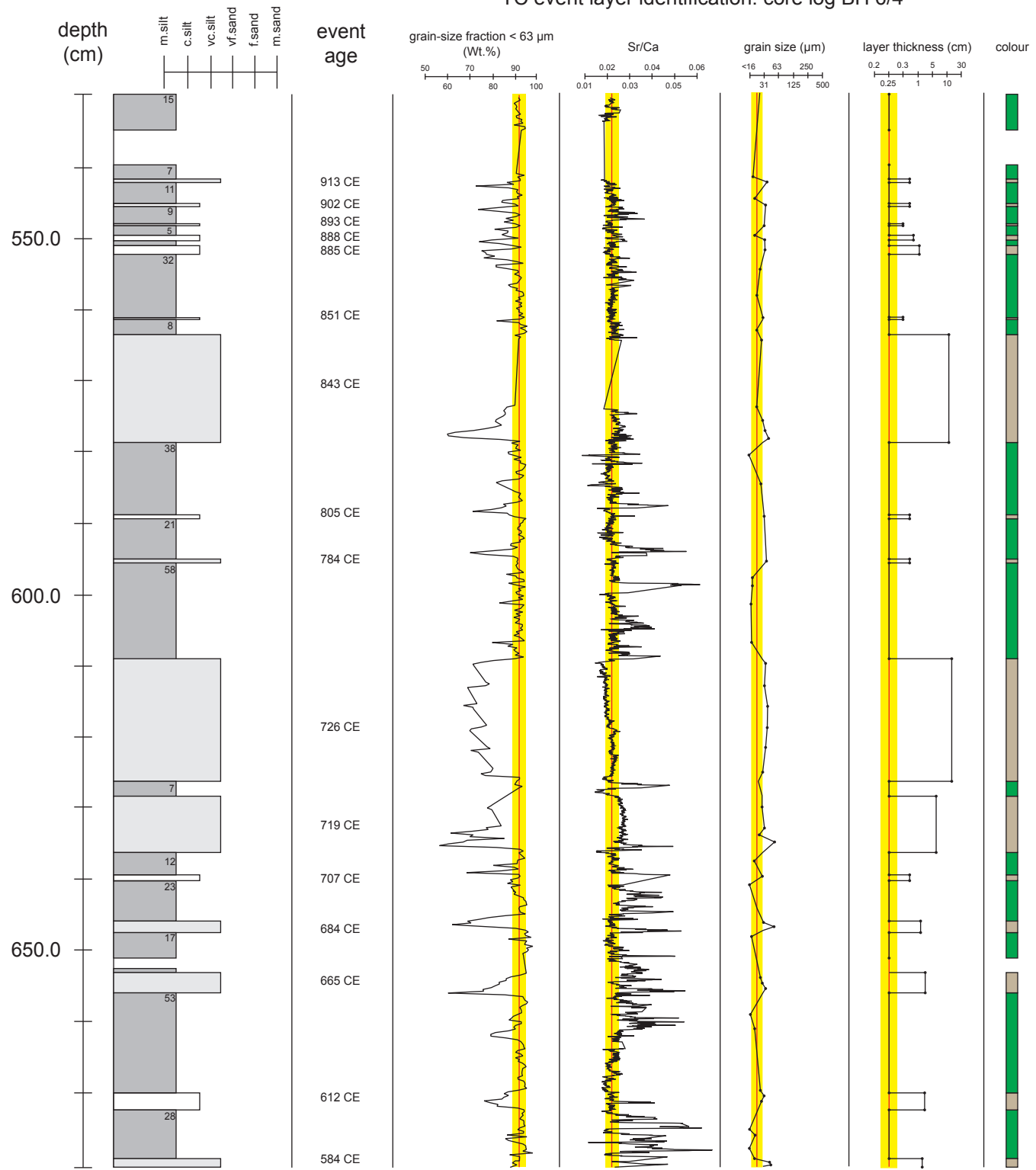
TC event layer identification: core log BH 6/2



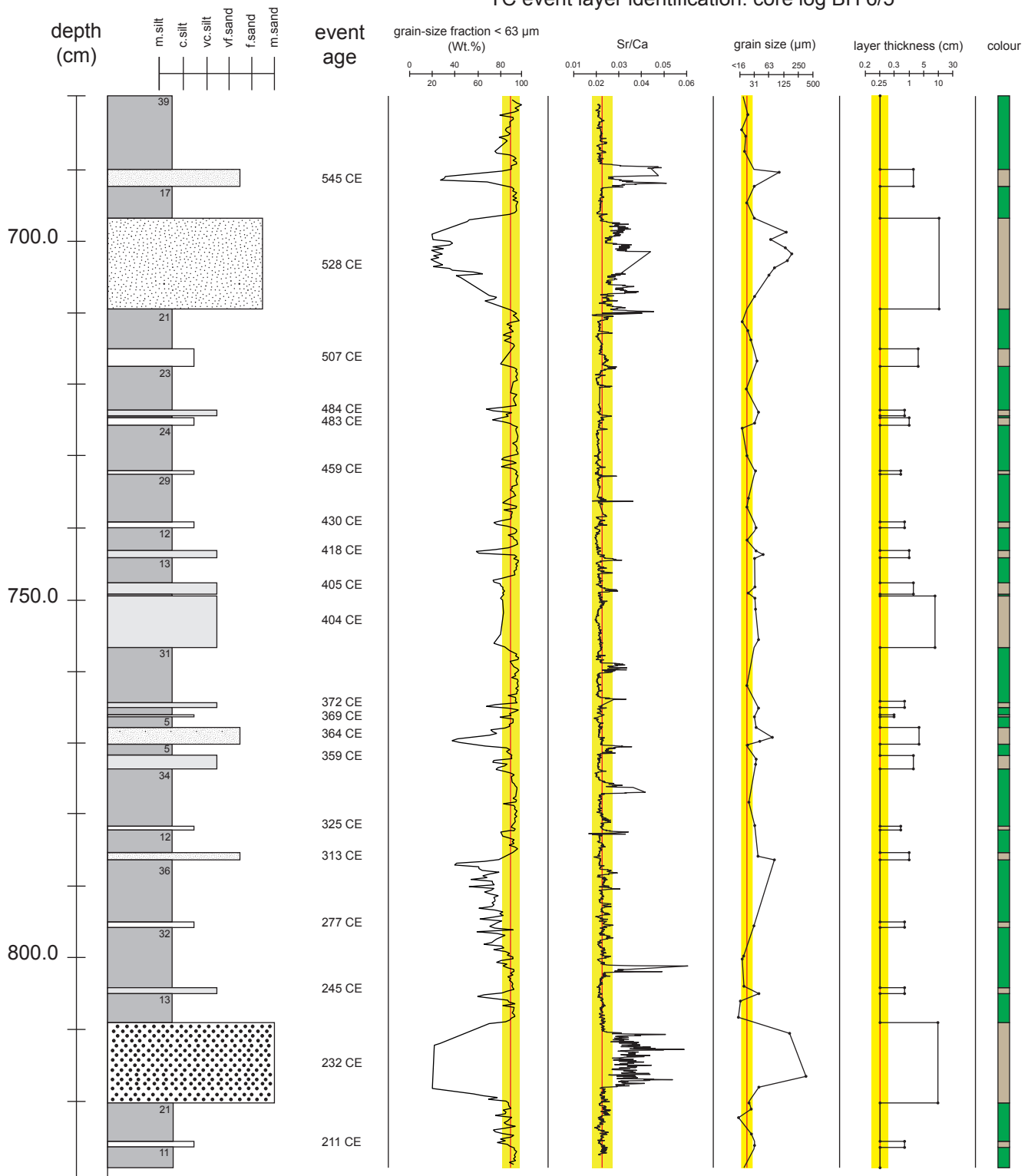
TC event layer identification: core log BH 6/3



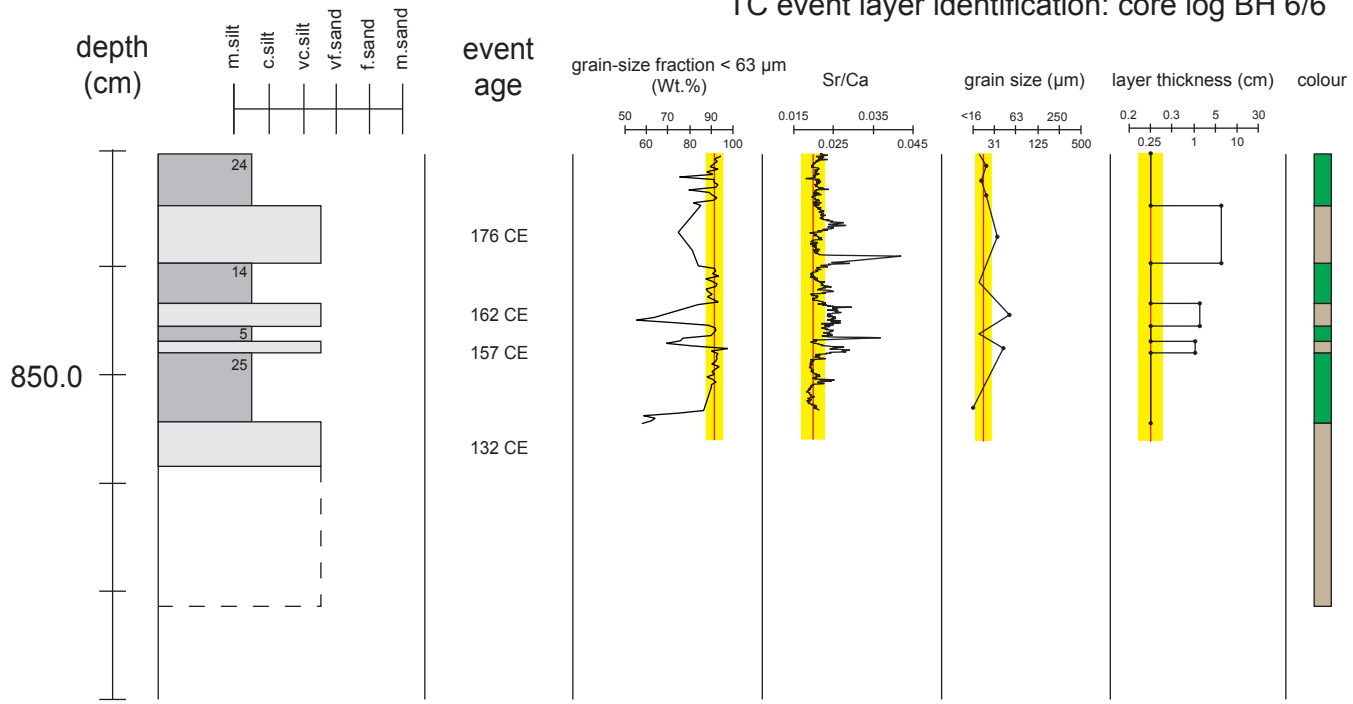
TC event layer identification: core log BH 6/4



TC event layer identification: core log BH 6/5

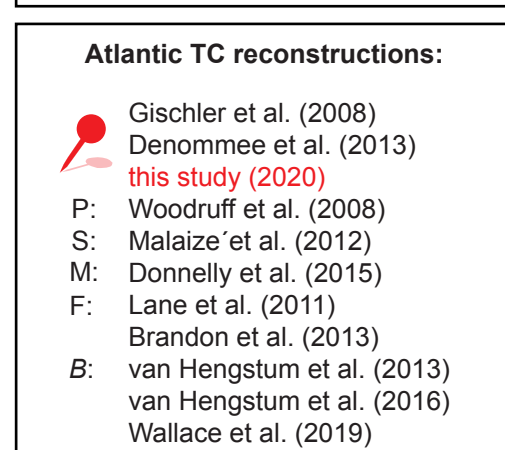
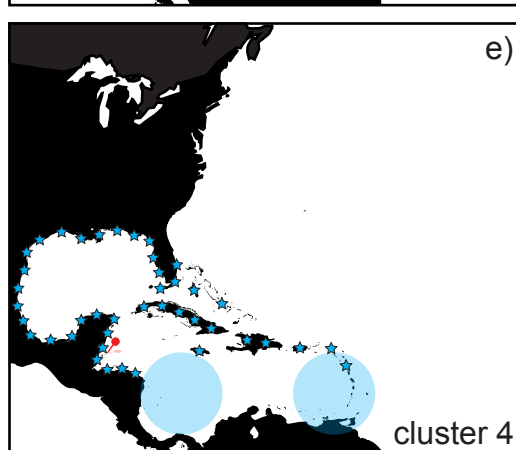
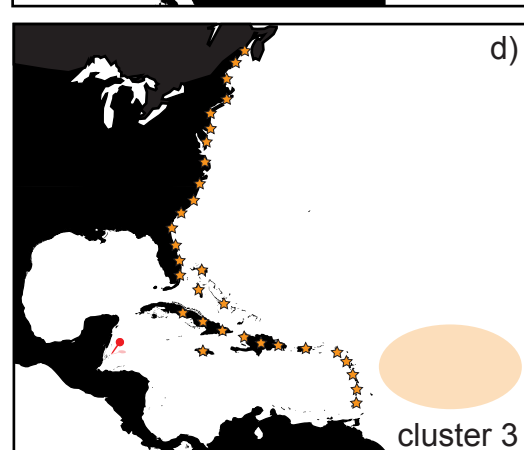
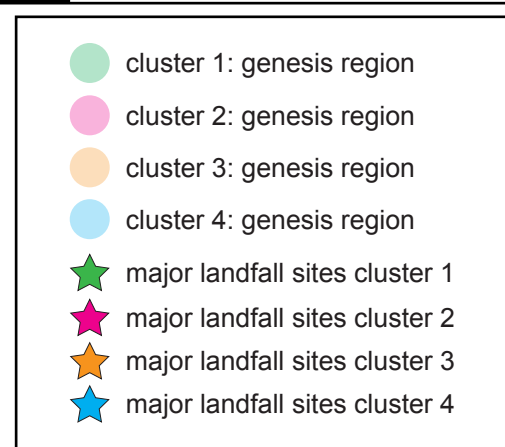
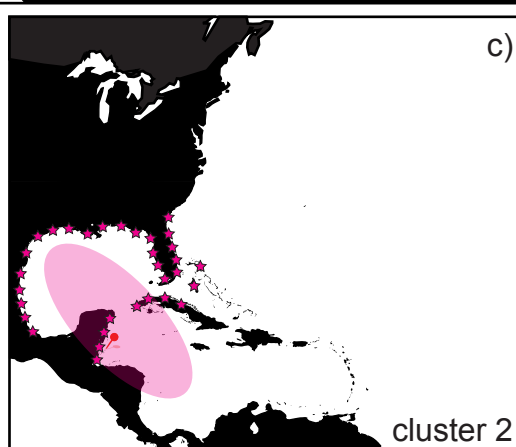
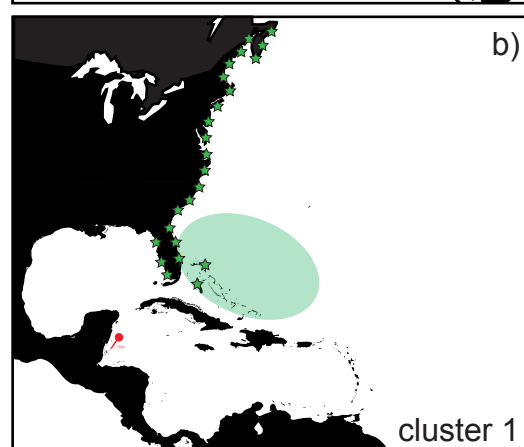
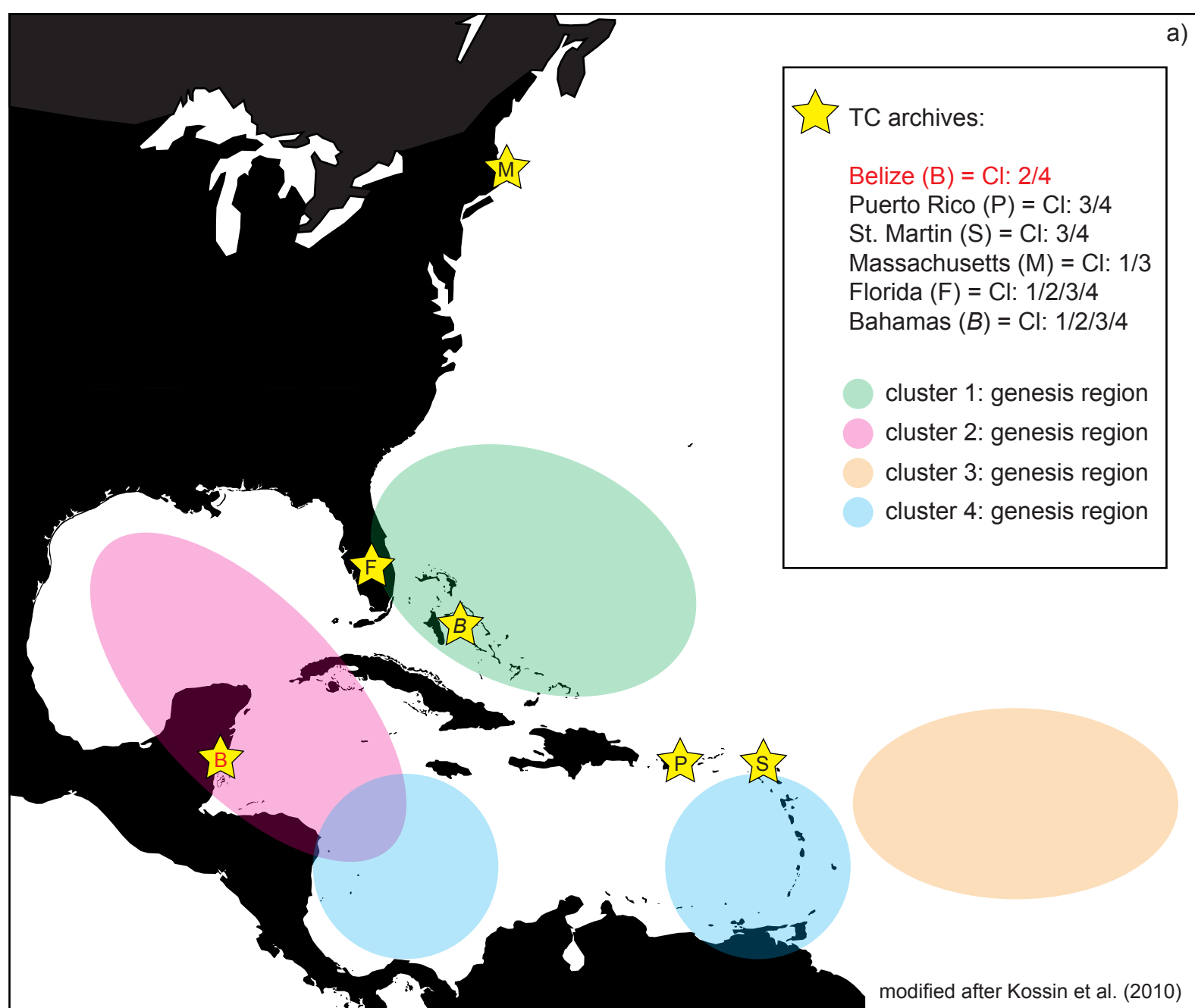


TC event layer identification: core log BH 6/6



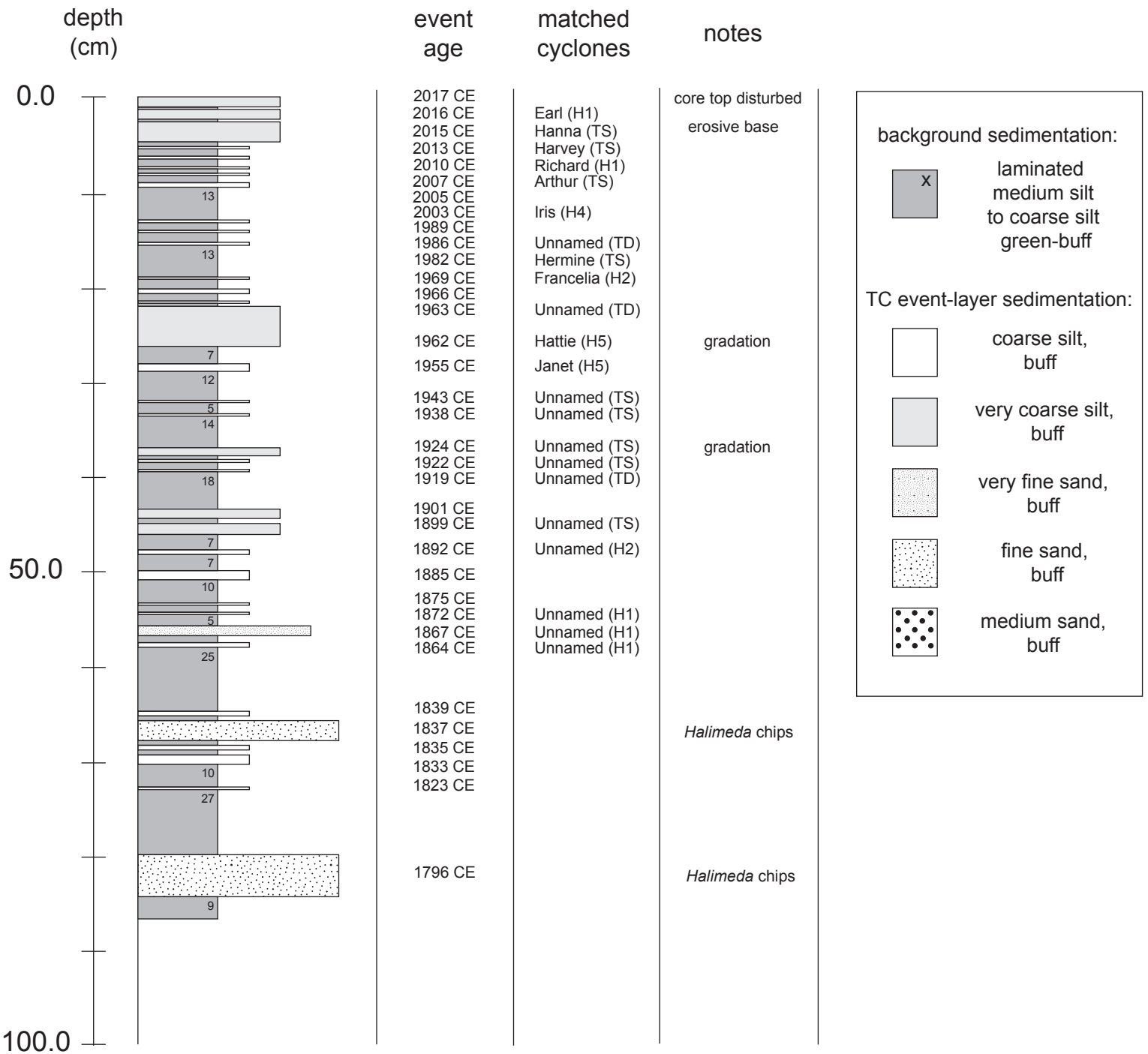
Suppl. 2: Correlation of historical TC record (1850 CE to 2017 CE), passing within 100 km radius around Lighthouse Reef, and proxy based event layer detection in core BH6.

Suppl. 3: a) The conceptual figure shows the genesis regions (shaded areas) of the four main Caribbean TC clusters and all TC reconstruction sites mentioned in the manuscript. **b,c,d,e)** Major landfall sites of the four clusters are highlighted with coloured star symbols. The red pin illustrates the position of Lighthouse Reef (presented TC record). The map was produced by digitising open access NASA satellite images with the vector graphic software Adobe Illustrator CS4 V.14.0. We acknowledge the use of imagery from the NASA Worldview application (<https://worldview.earthdata.nasa.gov>), part of the NASA Earth Observing System Data and Information System (EOSDIS). The simplified presentation of the TC clusters is based on the original data of Kossin et al. (2010).

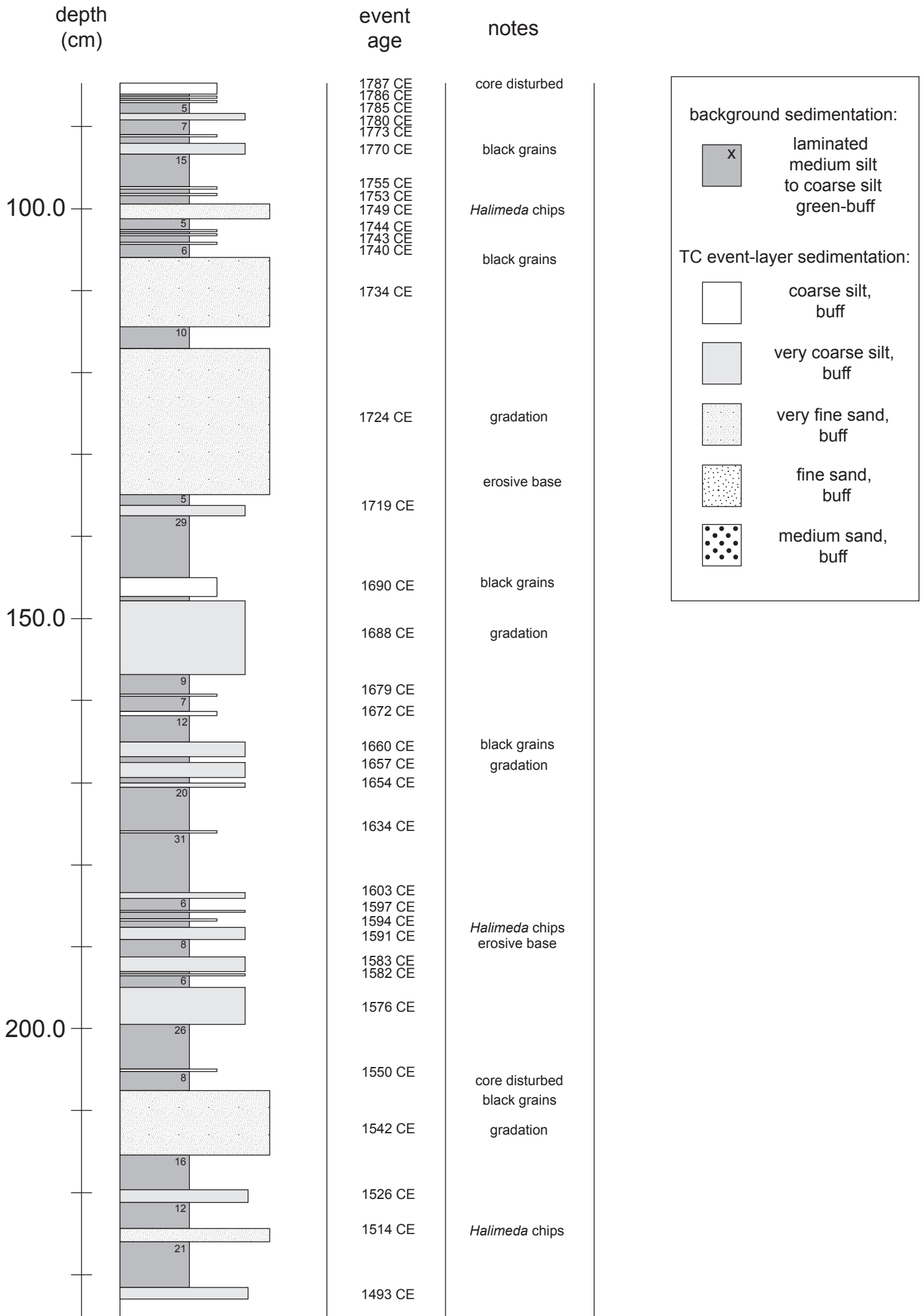


Suppl. 4: Seven detailed core logs in chronological order (BH7/1, BH6/1, BH6/2, BH6/3, BH6/4, BH6/5, BH6/6) with lithological and stratigraphic description (varve counting, TC event layer age, macro-fossil identification and sedimentary structures).

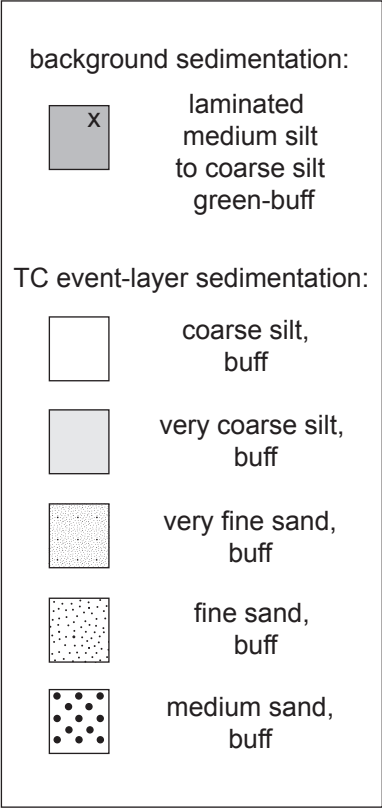
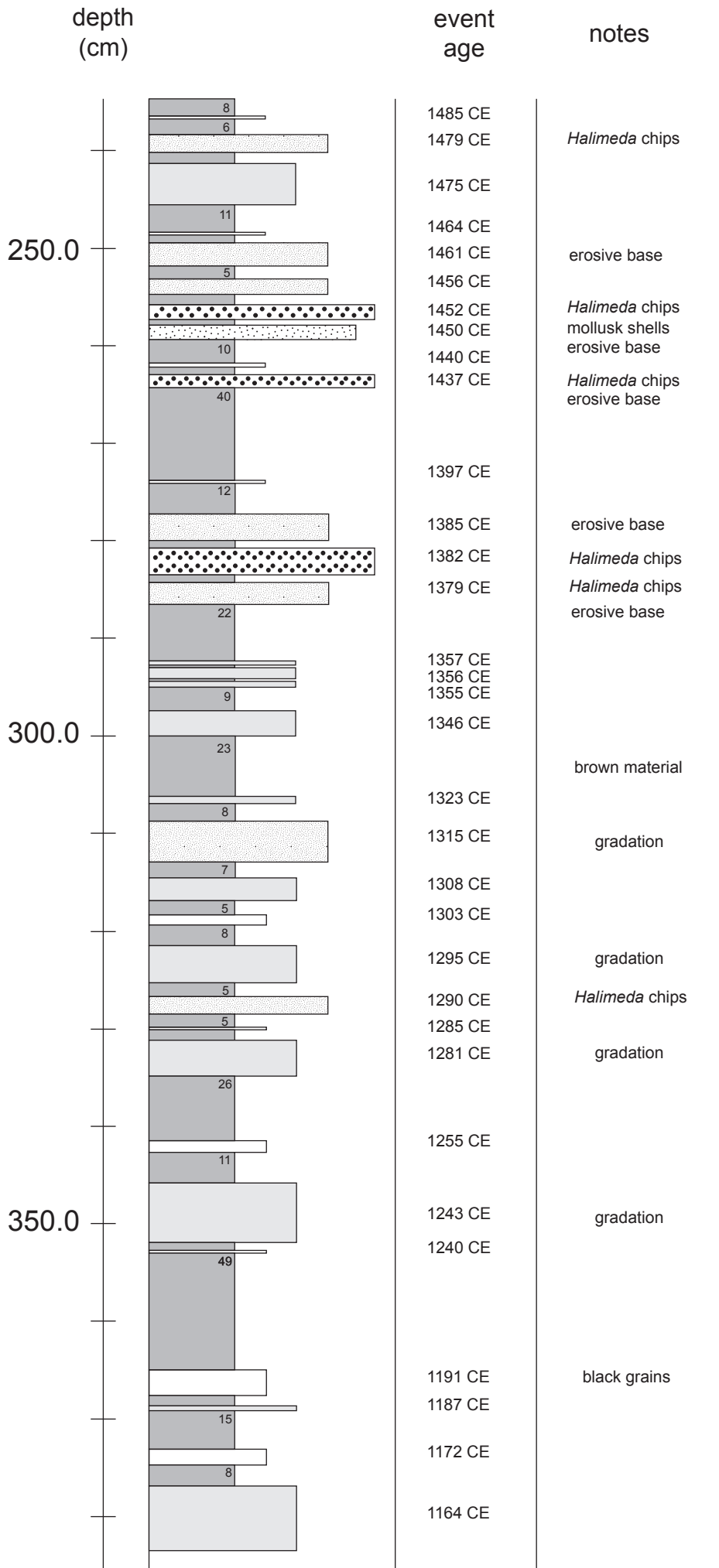
core log Blue Hole 7/1 (2017)



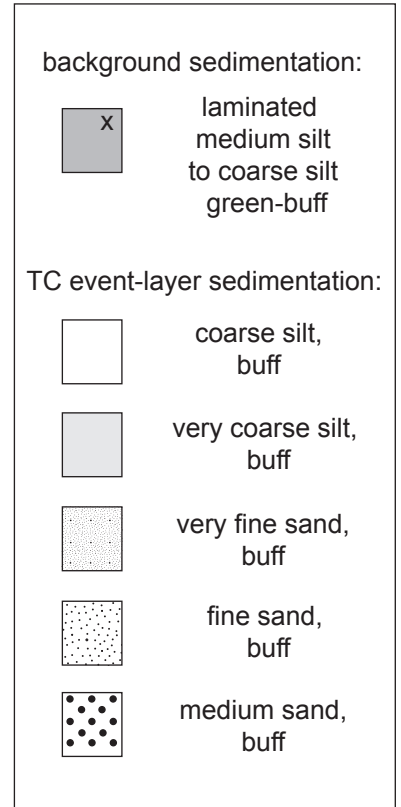
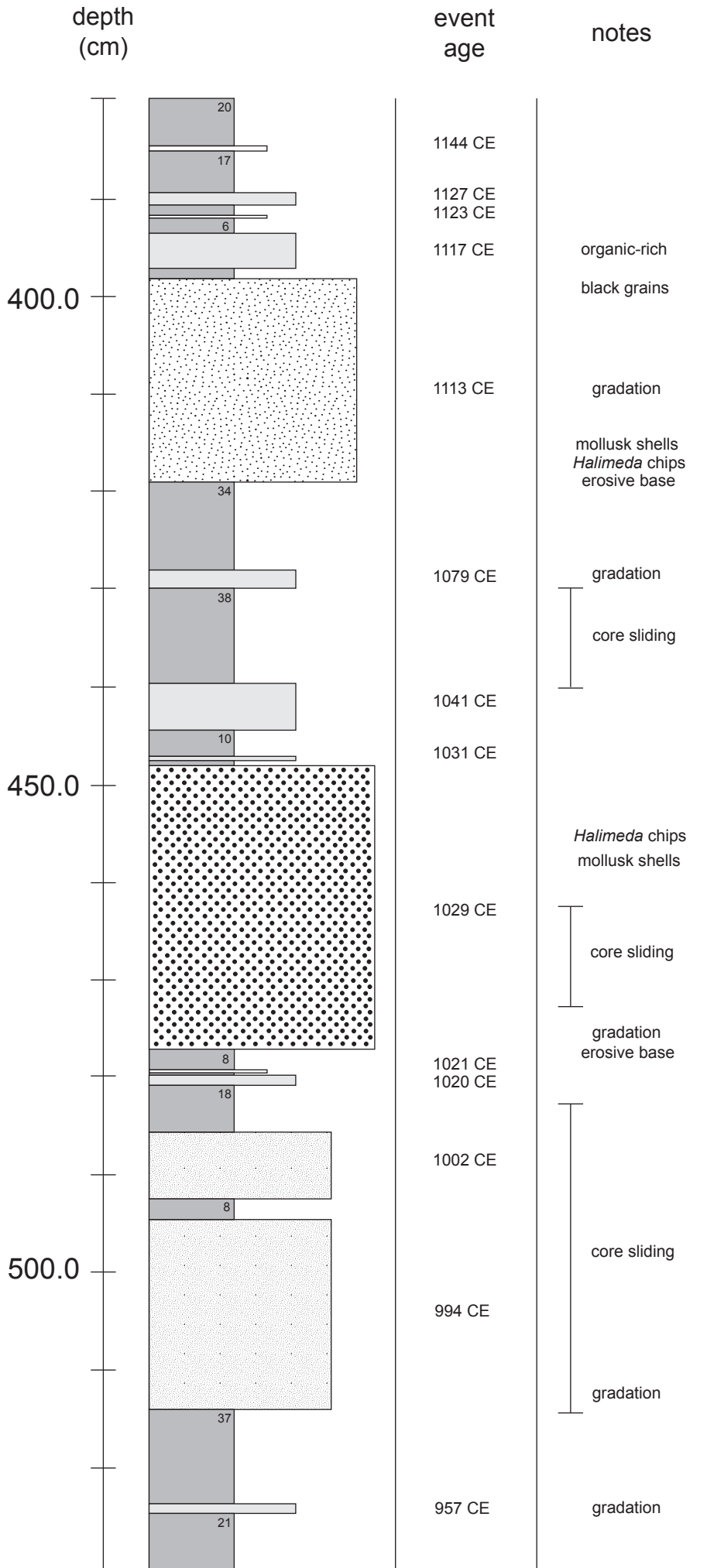
core log Blue Hole 6/1 (2017)



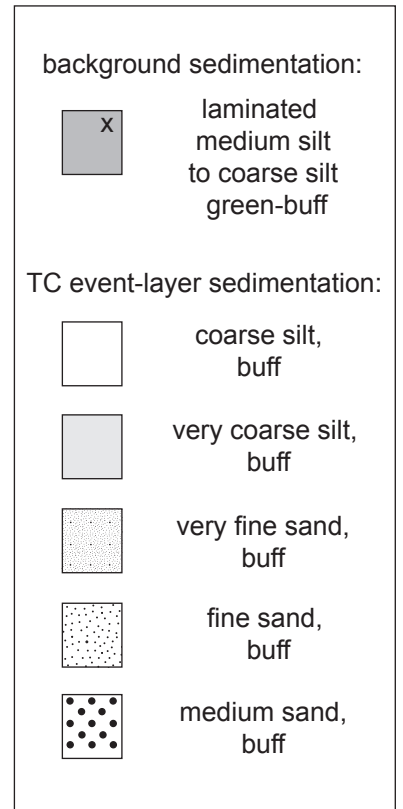
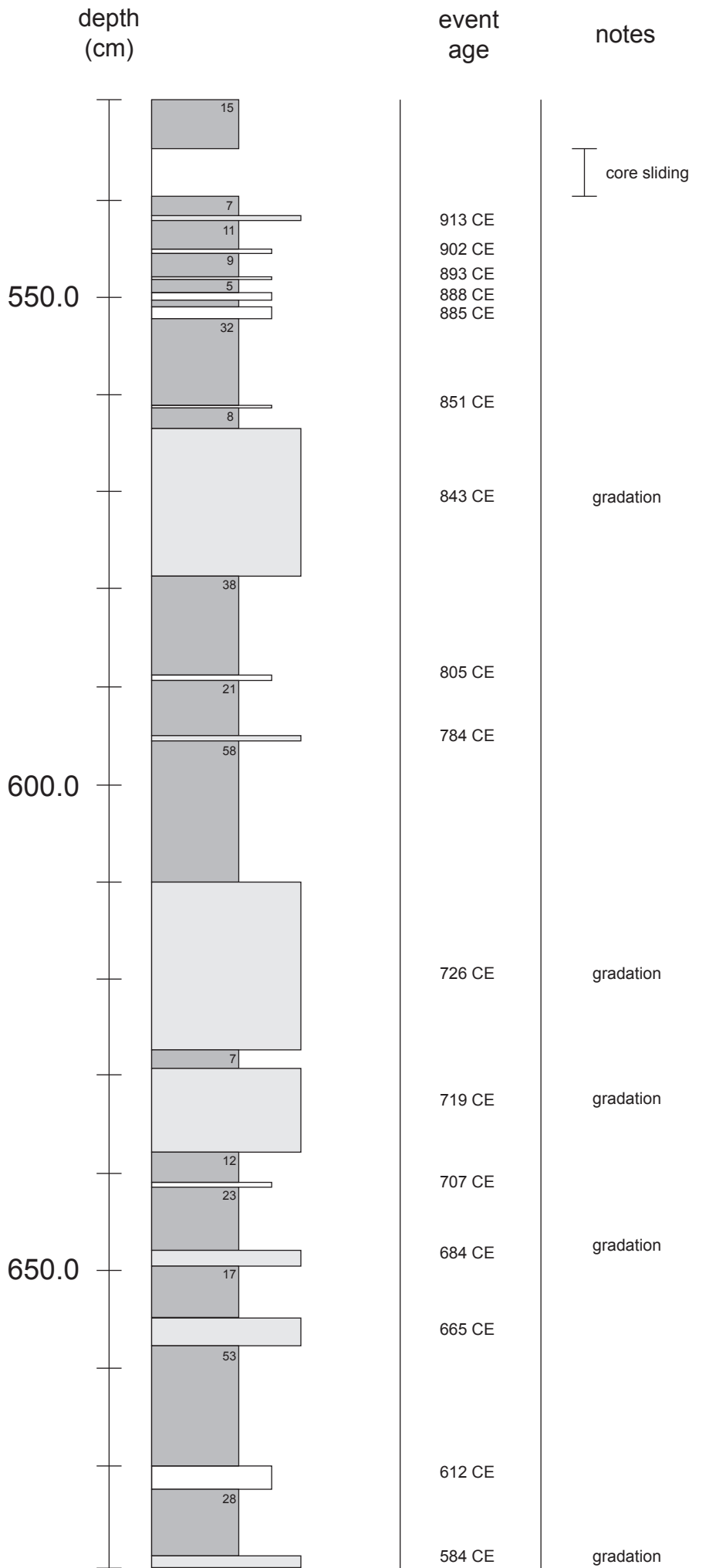
core log Blue Hole 6/2 (2017)



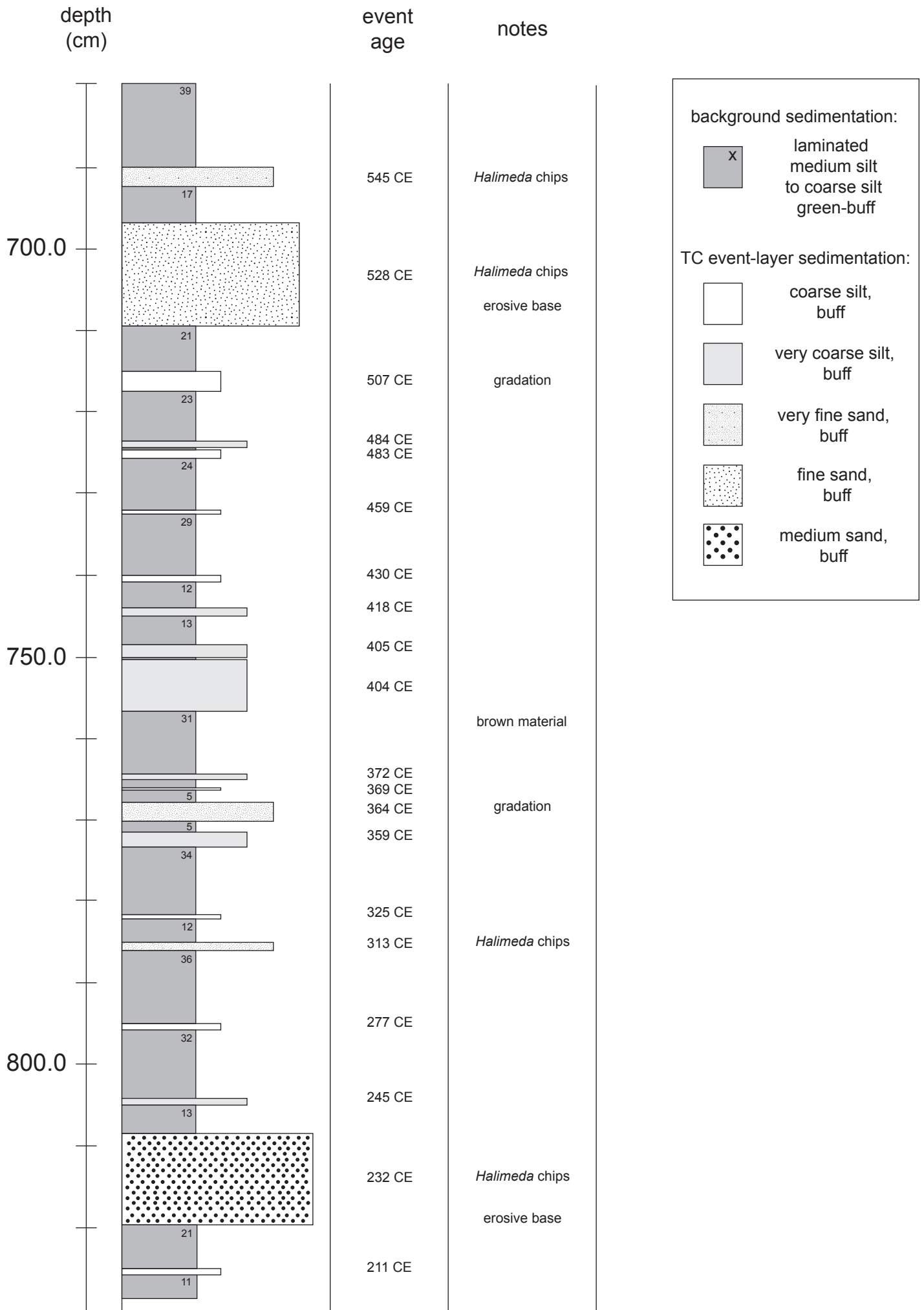
core log Blue Hole 6/3 (2017)



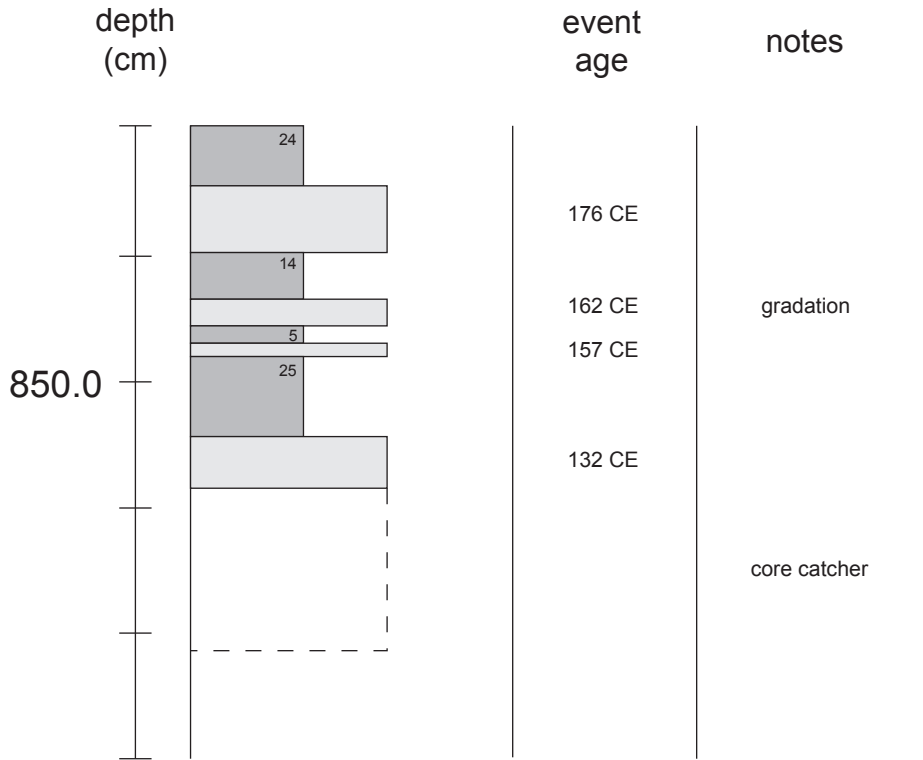
core log Blue Hole 6/4 (2017)



core log Blue Hole 6/5 (2017)



core log Blue Hole 6/6 (2017)



background sedimentation:

- laminated medium silt to coarse silt green-buff

TC event-layer sedimentation:

- coarse silt, buff
- very coarse silt, buff
- very fine sand, buff
- fine sand, buff
- medium sand, buff

Suppl. 5: Raw data of textural analysis (sieving results < 2mm-63 μm).

Suppl. 6: Raw data for age (year) to core depth (mm) calibration.

Suppl. 7: ^{14}C AMS radiocarbon geochronology and comparison with varve counting results.

Suppl. 8: Raw data of grain size and sorting calculations including the grain sizes <63 μm (Laser Particle Size Analyser).

Suppl. 9: Raw data of XRF measurements (element content in raw counts).

Suppl. 10: Raw data of TC counts, event layer thickness and grain size.

Supplementary Information is linked to the online version of the paper at www.nature.com/srep/.