

SUPPLEMENTARY

Table 1 Summary table of *in situ* field measurement data of water and water chemistry

| Date | Location | EC ($\mu\text{S}/\text{cm}$) | pH | Temp ($^{\circ}\text{C}$) | TOC (mg/l) | HCO_3^- (mg/l) | CO_3^{2-} (mg/l) | Cl^- (mg/l) | SO_4^{2-} (mg/l) | Ca^{2+} (mg/l) | Mg^{2+} (mg/l) | K^+ (mg/l) | Na^+ (mg/l) | F^- (mg/l) | NO_3^- (mg/l) | NO_2^- (mg/l) | PO_4^{2-} (mg/l) |
|---------------|--------------------|-----------------------------------|-------------|--------------------------------|---------------|----------------------------|------------------------------|-------------------------|------------------------------|----------------------------|----------------------------|------------------------|-------------------------|------------------------|---------------------------|---------------------------|------------------------------|
| August 2020 | SZAL-1 | 650 | 7.03 | 11.3 | 1.30 | 279 | <12 | 1.43 | 13.60 | 96.5 | 1.01 | 0.35 | 0.50 | <0.1 | 9.67 | <0.05 | <0.5 |
| | SZAL-2 | 505 | 7.60 | 14.8 | 1.12 | 290 | <12 | 1.40 | 13.62 | 97.3 | 1.06 | 0.38 | 0.51 | <0.1 | 9.12 | <0.05 | <0.5 |
| | DOB-1 | 480 | 6.36 | 9.2 | 1.23 | 382 | <12 | 3.64 | 43.28 | 130.5 | 3.11 | 0.78 | 1.62 | <0.1 | 11.51 | <0.05 | <0.5 |
| | DOB2 | 476 | 8.30 | 8.0 | 1.15 | 288 | <12 | 3.48 | 42.17 | 101.6 | 3.00 | 0.80 | 1.52 | <0.1 | 11.23 | <0.05 | <0.5 |
| | SEB-1 | 509 | 6.49 | 9.10 | 1.05 | 321 | <12 | 2.23 | 14.85 | 97.7 | 3.77 | 0.57 | 2.10 | <0.1 | 3.79 | <0.05 | <0.5 |
| | SEB-2 | 454 | 7.04 | 11.6 | 1.07 | 269 | <12 | 2.19 | 14.90 | 80.5 | 4.20 | 0.54 | 2.04 | <0.1 | 4.04 | <0.05 | <0.5 |
| | mean | 512 | 7.14 | 10.67 | 1.15 | 305 | <12 | 2.39 | 23.74 | 100.7 | 2.7 | 0.6 | 1.4 | <0.1 | 8.2 | <0.05 | <0.5 |
| | stand. dev. | 70 | 0.72 | 2.45 | 0.10 | 42 | | 0.97 | 14.73 | 16.36 | 1.35 | 0.19 | <0.01 | | 3.46 | | |
| February 2021 | SZAL-1 | 477 | 8.08 | 7.9 | 1.13 | 285 | <12 | 1.15 | 15.3 | 93.0 | 0.97 | 0.55 | <0.03 | <0.1 | 8.66 | <0.05 | <0.5 |
| | SZAL-2 | 468 | 8.58 | 6.9 | 1.55 | 270 | <12 | 0.05 | 15.4 | 84.4 | 0.95 | 0.52 | <0.03 | <0.1 | 8.08 | <0.05 | <0.5 |
| | DOB-1 | 612 | 7.5 | 9.4 | 1.12 | 349 | <12 | 2.87 | 43.0 | 113.3 | 2.57 | 0.98 | 0.53 | <0.1 | 10.8 | <0.06 | <0.5 |
| | DOB2 | 540 | 8.07 | 10.8 | 1.18 | 269 | <12 | 2.85 | 42.0 | 103.7 | 2.47 | 1.10 | 0.39 | <0.1 | 10.1 | <0.06 | <0.5 |
| | SEB-1 | 508 | 8.00 | 8.0 | 0.89 | 279 | <12 | 1.67 | 17.0 | 97.8 | 3.95 | 0.72 | 0.69 | <0.1 | 3.88 | <0.04 | <0.5 |
| | SEB-2 | 491 | 8.52 | 7.5 | 0.89 | 268 | <12 | 1.62 | 17.0 | 83.9 | 3.89 | 0.71 | 0.60 | <0.1 | 4.27 | <0.05 | <0.5 |
| | mean | 516 | 8.13 | 8.42 | 1.13 | 287 | <12 | 1.7 | 25.0 | 96.0 | 2.5 | 0.76 | 0.55 | <0.1 | 7.6 | <0.05 | <0.5 |
| | stand. dev. | 53 | 0.39 | 1.43 | 0.03 | 35 | | 1.07 | 13.61 | 11.42 | 1.32 | 0.24 | 0.13 | | 2.92 | | |

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Fig. 1 A/1) Fossil tufa sampling point and A/2) the dated samples at Fátyol waterfall at Szalajka valley.

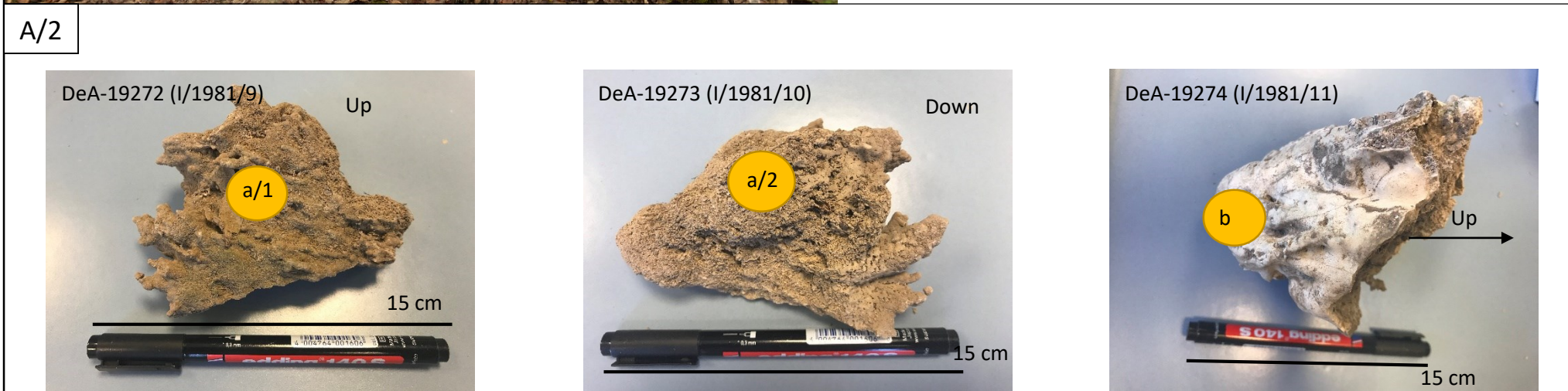
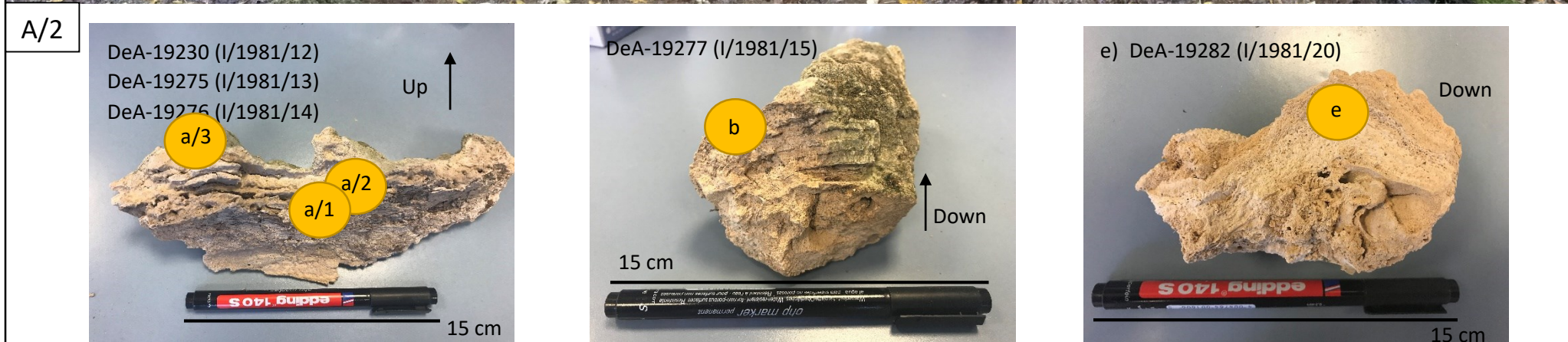


Fig. 2 Fossil tufa sampling points A/1) at and near the measured tufa barrage, B/1) downstream, a few hundred meters from the measured tufa barrier, C/1) in the waterbed about 50 m downstream of the active tufa barrier and their dated samples (A/2, B/2, C/2) at Sebesvíz.



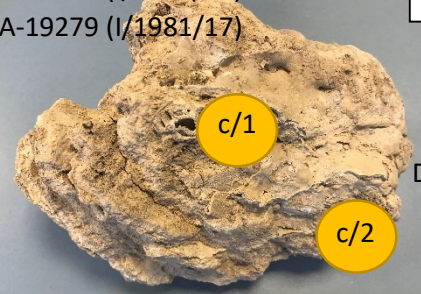
B/1



DeA-19278 (I/1981/16)

DeA-19279 (I/1981/17)

B/2

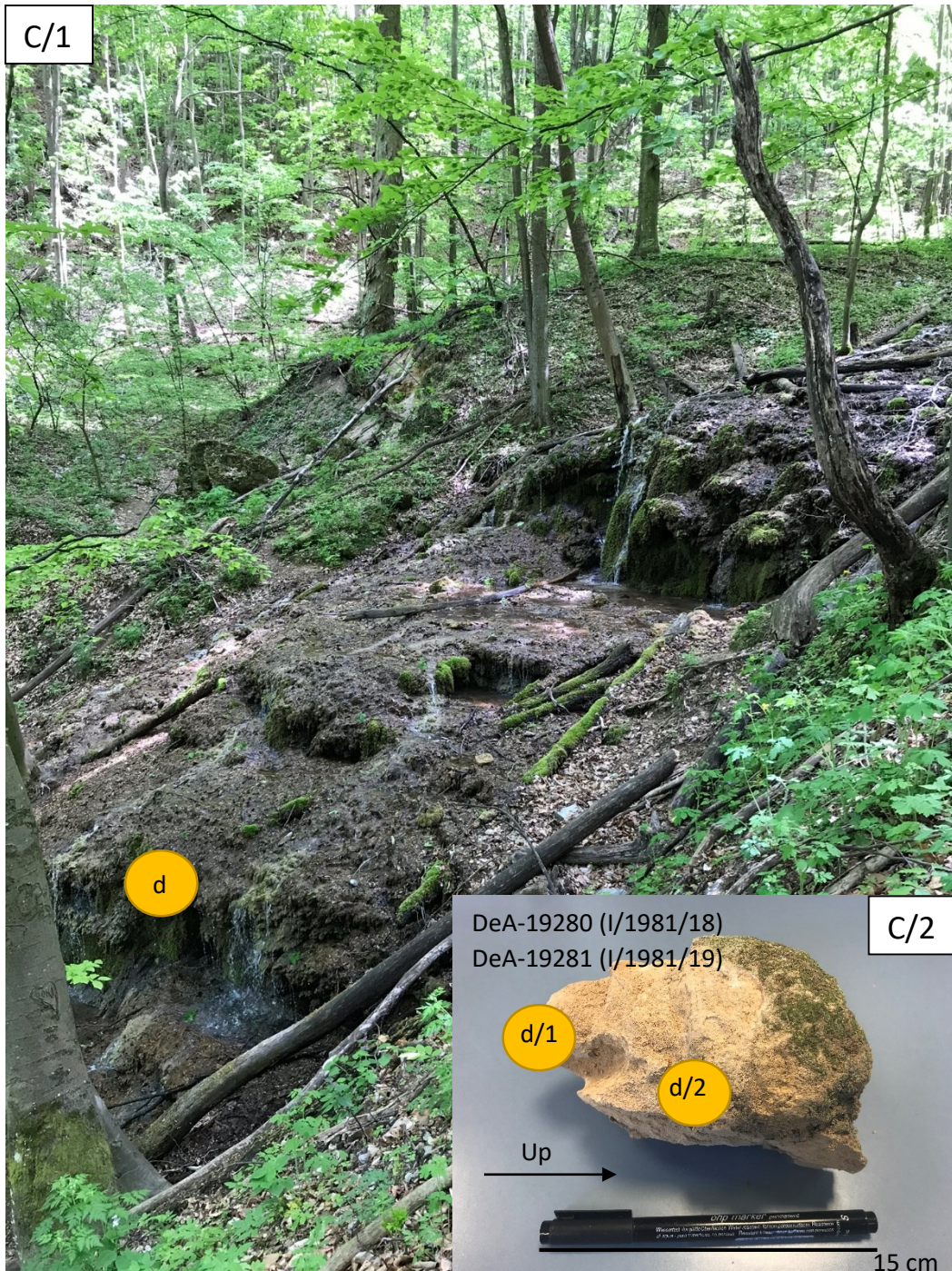


Down



15 cm

C/1



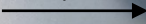
DeA-19280 (I/1981/18)
DeA-19281 (I/1981/19)

C/2

d/1

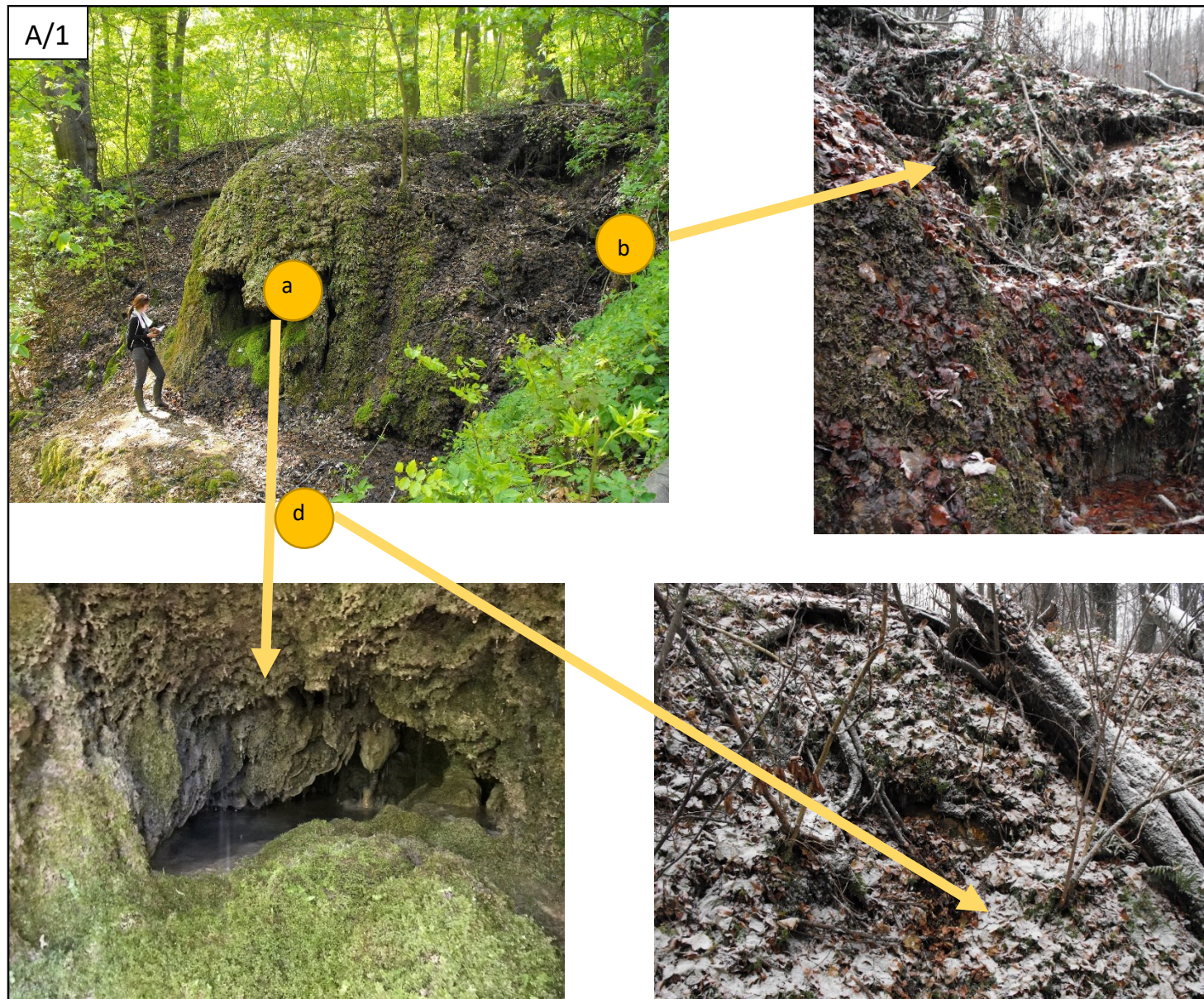
d/2

Up



15 cm

Fig. 3. Fossil tufa sampling points A/1) at and near the measured active tufa barrage, B/1) at the farthest sampling point downstream (separate fossil tufa block), and their dated samples (A/2, B/2) at Dobrica spring.



DeA-19266 (I/1981/1)

Down
→

a

15 cm

A/2

DeA-19270 (I/1981/6)

Up

d/2

d/1

15 cm

DeA-19267 (I/1981/2)

DeA-19268 (I/1981/3)

DeA-19269 (I/1981/4)

Down

b/1

b/2

b/3

15 cm

B/1

