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Data Article

# Multidisciplinary dataset for geological and environmental studies in the lake of Cavazzo (Southern Alps)

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ABSTRACT

The present dataset was collected to evaluate the environmental stressors on a lacustrine basin in the Eastern Alps of glacial origin that has been affected in recent years by natural and anthropogenic events such as the construction of a hydroelectric power plant and a series of strong earthquakes during 1976-1977. We collected sediment cores in different sites from the lake margins to the depocenter and performed a multiproxy analysis of sediment sample to highlight lake stratigraphy and major changes occurring at a decadal scale (Polonia et al., [1]). The integrated analyses of

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sedimentological, geochemical, isotopic, mineralogical and micropaleontological analyses aimed at reconstructing changes in sediment composition and define the triggering mechanisms of altered environmental conditions.
The dataset demonstrates that evaluating ex post the effects of artificial modification in a natural environment during relatively long time spans (decades) can provide important insights for managing and protection strategies in similar environments worldwide



## Specifications Table

| | |
|---|---|
| Subject | GEOLOGY |
| Specific subject area | Anthropogenic and natural impacts on lacustrine sedimentation and environment |
| Type of data | Table<br>Image<br>Chart<br>Graph<br>Fig. |
| How data were acquired | Grain size was determined using a Malvern Mastersizer 3000 analyser and laser-scattering spectra have been processed using the multiple sample analysis function in the Excel worksheet GRADISTAT.<br>Geochemical data were collected with an Avaatech XRF-CS at ISMAR CNR-Bologna, to estimate the elementary properties of lake sediments and characterize the variations of major elements.<br>Mineralogical data were obtained by X-Ray Powder Diffraction (XRPD) using a GNR APD2000PRO diffractometer equipped with a secondary graphite monochromator using CuK$\alpha$ radiation (power supply 40kV/40mA, 1° divergence and scatter slits, 0.2 mm receiving slit, 0.02° ($2\theta$ step size and counting time of 3 s/step, data collection scan 5-65° $2\theta$). Total carbon (TC) and total nitrogen (TN) were performed on selected homogenized sediments and determined using a *FISONS NA2000* elemental analyser coupled to a *Finnigan Delta Plus* mass spectrometer via a *CONFLO* interface.<br>Oxygen isotopes ($\delta^{18}O$) and stable carbon isotopes ($\delta^{13}C$) were measured on powdered carbonate sediment samples using a Gasbench II connected to a ThermoFisher Delta V Plus mass spectrometer.<br>Sediment samples were examined with a VEGA-TESCAN Scanning-Electron-Microscope.<br>Sediment chronology was carried out using $^{210}Pb$ and $^{137}Cs$ radioisotopes and varve counting. Linear Discriminant analysis (LDA) was run in order to find out a linear combination of considered variables. |
| Data format | Raw<br>Analyzed |
| Parameters for data collection | Seismic reflection profiles and sediment samples were collected during a geological/geophysical survey in May 2015 using a motorboat equipped with a Benthos-Teledyne CHIRP III subbottom profiler and a gravity corer with a 6 cm diameter plastic liner preserving the sediment-water interface.<br>All samples were stored in an oven with temperatures of 50 °C for 24 hours and subsequently weighed. After being left soaking for 24 hours into demineralized water, the samples were then wet sieved with a mesh size of 63 µm. The residual of all samples was finally filtered, dried at 50 °C, weighed and stored in polyethylene bags. |

(*continued on next page*)

| | |
|---|---|
| Description of data collection | Sediment cores were sampled in the SW sector of the lake in intermediate (25 m) water depth with no benthic plants, in shallow (15 m) water depth and close to the depocenter (35 m water depth). The cores were studied by different methods, including visual logs and texture/sedimentary features analyses, carried out combining high-resolution colour photos to define main stratigraphic levels. Each core was subsequently sampled at 1 cm interval for sedimentological and compositional analysis (micropaleontology, geochemistry, mineralogy, isotopic analyses), following clinoforms where noticeable. |
| Data source location | ISMAR-CNR (Institute of Marine Sciences)<br>Via Gobetti, 101, 40129 Bologna, Italy |
| Data accessibility | The data are hosted 'With the article' |
| Related research article | A. Polonia. S. Albertazzi, L. G. Bellucci, C. Bonetti, G. Giorgetti, S. Giuliani, M. López Correa, C. Mayr, L. Peruzza, G. Stanghellini, L. Gasperini. Decoding a complex record of anthropogenic and natural impacts in the Lake of Cavazzo sediments, NE Italy. Science of the Total Environment 787 (2021) 147659<br>https://doi.org/10.1016/j.scitotenv.2021.147659 |

## Value of the Data

- The multidisciplinary dataset provides information on the decennial environmental evolution of the alpine Lake of Cavazzo highlighting a complex record of anthropogenic and natural impacts on the lake ecosystem.
- Evaluating ex post the effects of artificial modification in a natural environment during relatively long time spans (decades) can provide important insights for managing and protection of similar environments worldwide
- Stressing factors such as the construction of a hydroelectric power plant, earthquakes, changes in the sediment load and composition and anoxia are described based on a multi-proxy analytical approach employing physical, geochemical, and microbiological descriptors.
- The power plant altered the pristine environment and favoured the occurrence of sediment lamination, changing sediment mineralogy, increased deposition of allochthonous clastic sediments higher in S, Zn and Pb, and recurrent episodes of reducing conditions at the lake's floor
- The AD 1976 ML 6.4 Friuli earthquakes triggered sediment import via mass transport (seismo-turbidite).

## 1. Data Description

The data presented here deal with sediment sample characteristics that were collected to reconstruct the lake of Cavazzo stratigraphy, highlighting major changes occurring at a decadal scale in response of natural and anthropogenic stressors. Our main purpose is to verify whether and how the lake sediments record the transition from pristine/natural to artificial conditions, as well as the effects of multiple natural impacts, including the 1976-77 Friuli earthquake sequence.

The study area and the sampling points are shown in Fig. 1 that shows suspended solids in the surface waters of the Lake of Cavazzo discharged by the hydroelectric power plant. Information on the sampling stations (coordinates, water depth, penetration depth and site characteristics) are provided in Table 1 (Raw data in Supplementary material S1). The stratigraphic log of cores CAV-04 and CAV-06 are described in (Polonia et al. [1] while Fig. 2 represents the log of core CAV-03 with main sedimentological and micropaleontological features.

Overall sediment composition of core CAV-06 under the optical microscope is shown in Fig. 3 while stable isotope composition and carbonate content in the same core are represented

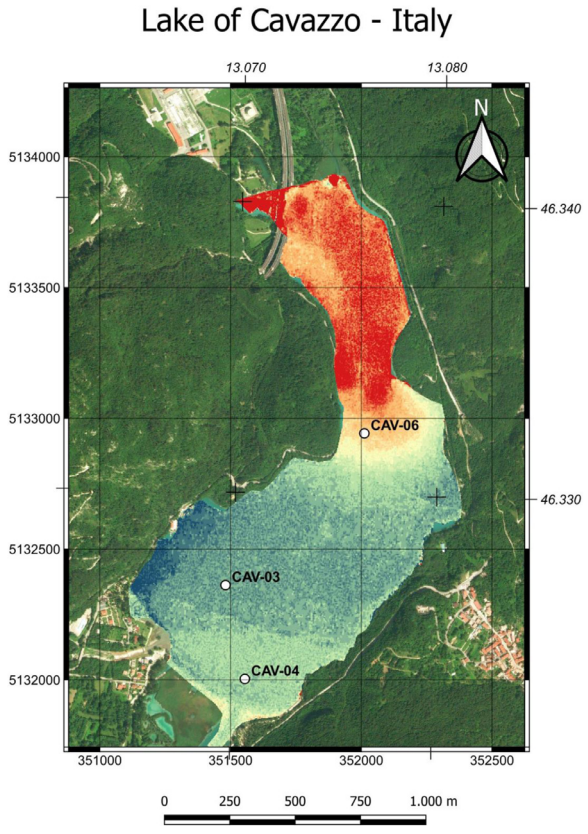


**Fig. 1.** High-resolution satellite image (red spectral band) acquired on 9 October 2006 showing the distribution of suspended solids in the surface waters of Cavazzo lake and the three sediment cores. Colors towards red represent a higher concentration of sediment particles. The adopted coordinate reference systems are ED50/UTM zone 33N (grid) and WGS84 Geographics DD (crosses). The raw image was obtained from Google Earth Pro and the processed turbidity data has been modified from Polonia et al. [1].

in Table 2 (Raw data in Supplementary material S2). The same sediment samples shown in Fig. 3 are shown in Fig. 4 under SEM back-scattered electron mode. The two characteristic sediment types encountered in core CAV-06 are compared in Fig. 5.

The bulk sediment mineralogy of cores CAV-04 and CAV-06 is shown in Table 3 (Raw data in Supplementary material S3) and Fig. 6. The dolomite/calcite ratio was estimated for different samples and its variations is shown in Figs. 7 and 8.

The ostracod components within sediment samples are shown in the ostracod plate of Fig. 9. Rainfall data (Fig. 10) were used to verify possible relationships between precipitation and laminae formation within the lake.

**Table 1**
Location of gravity cores, water depth and core length.

| Core name | Latitude | Longitude | Depth | Core length | Site description |
|---|---|---|---|---|---|
| CAV-03 | 46.3268070170 | 13.0700165037 | 25 m | 42 cm | Southern shelf, close to highly vegetated lake floor |
| CAV-04 | 46.3241830169 | 13.0707736704 | 15 m | 51 cm | Southern slope, intermediate depth |
| CAV-06 | 46.3328415174 | 13.0763325040 | 35 m | 64 cm | Flat plain close to the lake's depocenter |

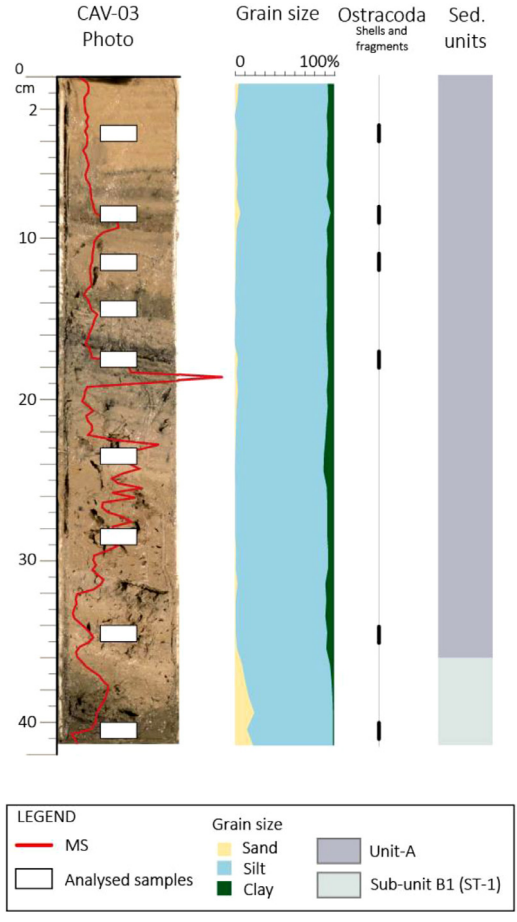


**Fig. 2.** Log of core CAV-03. From left to right: photograph with high resolution magnetic susceptibility in red, grain size, ostracoda distribution and subdivision in individual sedimentary units.

**Table 2**
Stable isotope composition and carbonate content from core CAV-06 in the depocenter of the lake of Cavazzo.

| Core | Sample | Depth (cm) | $\delta^{13}C$ (‰ VPDB) | $\delta^{18}O$ (‰ VPDB) | Carbonate (%) | Color | Remarks |
|---|---|---|---|---|---|---|---|
| CAV-06 | CAV-2 cm | 2-3 | 1.84 | -4.76 | ~60 | Light | |
| CAV-06 | CAV-11 cm | 11-12 | 1.95 | -5.49 | ~60 | Light | |
| CAV-06 | CAV-21 cm | 21-22 | 1.80 | -3.68 | ~50 | Dark | |
| CAV-06 | CAV-39 cm | 39-40 | 1.43 | -4.17 | ~50 | Dark | |
| CAV-06 | CAV-42 cm | 42-42 | 1.90 | -3.24 | ~85 | Light | Event bed |
| CAV-06 | CAV-50 cm | 50-50 | 1.84 | -3.54 | ~50 | Dark | Base of seismite |
| CAV-06 | CAV-52 cm | 52-53 | 1.69 | -3.09 | ~60 | Light | |

Linear Discriminant analysis was run on z-value transformed data in order to find out a linear combination of 12 variables (grain size and XRF-based geochemical features) that could be used to statistically discriminate the predefined lithological units in each core. XRF data for cores CAV-04 and CAV-06 are listed in Tables 4 and 5 (Raw data in Supplementary material S4 and S5). The Kruskal Wallis comparison test for each geochemical and granulometric variable among the sediment units classified “a posteriori” are provided in Figs. 11 and 12.

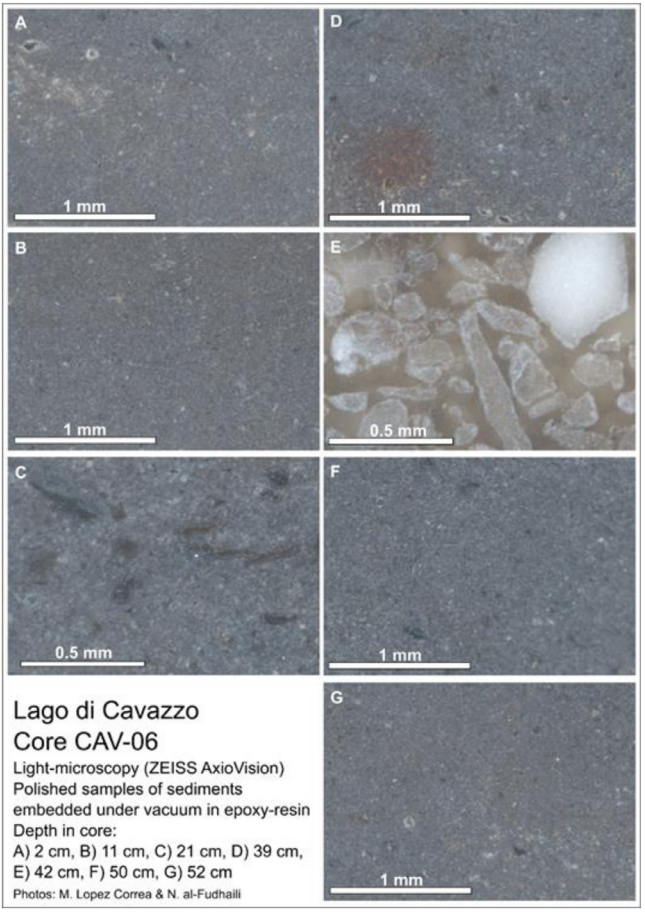


**Fig. 3.** Overall sediment composition of core CAV-06 samples under the optical microscope. Polished bulk-sediment samples **A)** to **D)**, as well as **F)** and **G)** have a very similar appearance across the core CAV-06: Light angular carbonate grains (calcite and dolomite) are floating in a finer background matrix, along with darker irregular components interpreted as phytodetritus. **E)** The event bed at -42 cm is dominated by coarse angular carbonate sand (mostly calcite).

Resedimentation processes and import of coarse sediments from shallow to deep water is clearly shown by grain size data in Fig. 13 (green curves of resedimented Unit-B in (Polonia et al., [1]).

The relationships between the scores of the first two discriminating axes and the organic geochemical data for the cores CAV-04 and CAV-06, represented by the correlation matrix in Fig. 14, show that the different sediment units can be characterized by the carbon and nitrogen data. CHN data used in the statistical analyses are shown in Table 6 (Raw data in Supplementary material S6).

Statistical analyses of XRF data within Unit-A show different clusters with similar characteristics (Fig. 15). Cluster 1 is characterized by higher values of Si/Al (aluminosilicates/biogenic silica), Ca/Al (calcium carbonate), Ba/Al (productivity), S/Al (bottom water anoxia/gypsum), suggesting stronger influence of sediments from the hydroelectrical power plant whose catchment area is rich in mica, evaporites and gypsum. There is a partial concordance in the distribution of this group through the Unit-A and the occurrence of dark laminae. The samples joined in Cluster 2 present intermediary geochemical characteristics and are distributed throughout the entire Unit-A. Cluster 3 is characterized by higher values of Fe, Ti and Zr and there is some

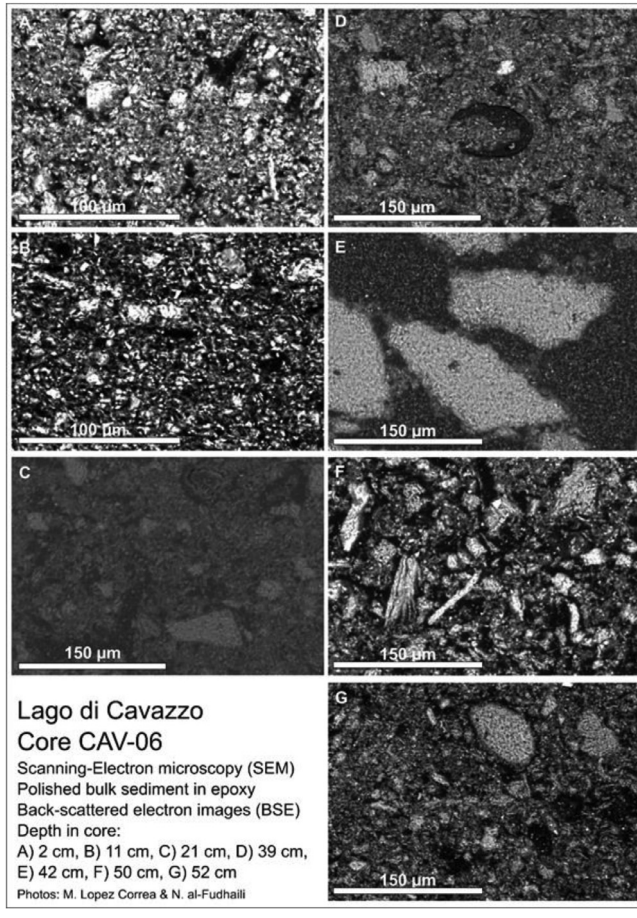


**Fig. 4.** Overview of the SEM-aspect of the polished bulk-sediment samples under back-scattered electron mode. **A)** to **D)**, as well as **F)** and **G)** show angular calcite (light) and dolomite (dark-grey) grains and phytodetritus (black; e.g. D) floating in a finer matrix of the same composition. **E)** Overall, the event bed at -42 cm is dominated by coarse angular calcite grains and lacks a fine matrix.

concordance in the distribution of this group and the "light brown" laminae occurrence in the upper portion of the Unit-A.

The seismic trigger for sediment remobilization was investigated considering observed and predicted ground shaking values during the 1976-1977 Friuli seismic sequence that are reported in Table 7 (Raw data in Supplementary material S7) while the location map of the selected earthquakes are shown in Fig. 16.

## 2. Experimental Design, Materials and Methods

Three cores were collected with a gravity corer in different settings of the lacustrine basin: in the lake depocenter (core CAV-06), in intermediate waters (core CAV-03) and in shallow waters in the southern basin margin (core CAV-04). They were studied through a multi-proxy approach, including visual logs and texture/sedimentary features analyses, micropaleontology, geochemistry, isotopic analyses and mineralogy. Each core was sampled at 1 cm interval for grain size

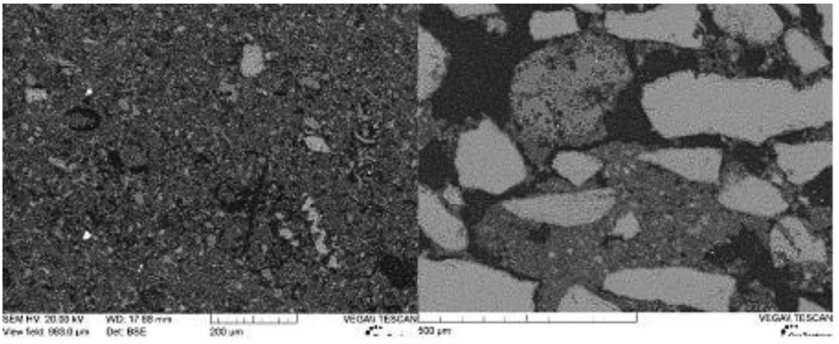

**Fig. 5.** Backscattered-electron SEM images of the two characteristic sediment types encountered, showing the samples from -39 cm **(A)** and -42 cm **(B). A)** Detrital angular mineral components, mostly calcite and dolomite (light grains) and phytodetritus (dark components). Note the brachiopod fossil, which is a clear indication of detrital input from eroded marine bedrocks in the catchment of the lake. Phytodetritus here derives from plant remains with tube-shape, visible as rings and elongated cross-sections. **B)** Detail of the event bed at -42 cm shows the large angular calcite grains floating in a sediment that resembles the aspect of the other six horizons (Fig. S6). Note the rounded sediment remnant with small angular dolomite grains (grey) and fine phytodetritus. The large calcite grains derive likely from a shallower position in the lake and have been transported to the site, where the typical finer sediments prevailed, that have been partially reworked.

**Table 3**
Results of mineralogical analyses in cores CAV-04 and CAV-06.

| Sed. Core | Depth (cm) | Units | Quartz | Plagioclase | Calcite | Dolomite | Gypsum | Illite | Clorite | Amphibole |
|---|---|---|---|---|---|---|---|---|---|---|
| CAV04 | 4 | A | 10 | 3 | 33 | 22 | 3 | 18 | 11 | |
| CAV04 | 16 | A | 10 | 3 | 34 | 25 | 1 | 18 | 9 | 0.5 ? |
| CAV04 | 18 | B1 | 8 | 3 | 35 | 25 | 1 | 18 | 9 | 0.5 ? |
| CAV04 | 22 | B1 | 10 | 2 | 48 | 30 | 2.5 | 5 | 2 | |
| CAV04 | 50 | C | 5 | 0 | 40 | 50 | 0.5 | 3 | 2 | |
| CAV06 | 24 | A | 11 | 3 | 27 | 30 | 1 | 19 | 6 | 3 |
| CAV06 | 41 | B1 | 6 | 1 | 50 | 25 | 1 | 10 | 5 | 2 |
| CAV06 | 45 | B1 | 5 | 1 | 66 | 16 | 0 | 7 | 3 | 2 |
| CAV06 | 48 | B1 | 12 | 4 | 26 | 30 | 0.5 | 18 | 5 | 4 |
| CAV06 | 54 | B2 | 10 | 3 | 28 | 34 | 0.5 | 16 | 5 | 3 |
| CAV06 | 58 | B2 | 12 | 3 | 23 | 30 | 3.5 | 18 | 6 | 4 |
| CAV06 | 63 | C? | 12 | 3 | 24 | 32 | 0.5 | 18 | 6 | 4 |

analysis determined using a Malvern Mastersizer 3000 analyser (size range from 0.02 to 2000 µm). Laser-scattering spectra have been processed using the multiple sample analysis function included into the Excel worksheet GRADISTAT, in order to obtain the grain-size distribution for every sample and to create a grading curve for each core. Grain-size analysis accounts for all particles included in the sample, i.e., shells, vegetal remains, etc., as well as the clastic component; determinations have been performed using three classes (clay, silt, sand).

High-resolution magnetic susceptibility (MS) logs were acquired with a Bartington MS2 system, equipped with a 100 mm loop sensor at sampling interval of 0.5 cm.

A qualitative analysis of micropaleontology and sediment components has been performed through observation under the stereomicroscope of 51 samples extracted from all cores, considered as representative of the lithological variability evaluated through a preliminary visual observation of the cores.

**Table 4**
XRF data collected with an Avaatech XRF-CS at ISMAR CNR-Bologna, to estimate the elementary properties of lake sediments and characterize the variations of major elements for core CAV-04. The XRF core scanner results are expressed as peak intensities by counts per second (cps). Both elemental concentrations (cps) without normalization and element ratios normalized on Ti are shown.

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,2 | 25627,70 | 1130,10 | 140,95 | 144,50 | 184,80 | 2190,40 | 47,95 | 27,65 | 103,50 | 160,20 | 138,68 | 6,12 | 0,76 | 0,78 | 11,85 | 0,26 | 0,15 | 0,56 |
| 0,4 | 31584,30 | 1392,60 | 154,40 | 167,80 | 206,40 | 2558,20 | 58,15 | 27,65 | 120,40 | 185,10 | 153,02 | 6,75 | 0,75 | 0,81 | 12,39 | 0,28 | 0,13 | 0,58 |
| 0,6 | 32728,60 | 1233,70 | 150,00 | 196,70 | 258,20 | 2817,10 | 60,90 | 29,65 | 59,40 | 179,30 | 126,76 | 4,78 | 0,58 | 0,76 | 10,91 | 0,24 | 0,11 | 0,23 |
| 0,8 | 33011,20 | 1094,60 | 164,25 | 261,90 | 256,20 | 3096,20 | 64,80 | 38,05 | 64,80 | 229,80 | 128,85 | 4,27 | 0,64 | 1,02 | 12,09 | 0,25 | 0,15 | 0,25 |
| 1,0 | 31988,90 | 1106,60 | 208,45 | 233,50 | 248,30 | 3028,60 | 66,55 | 36,95 | 54,10 | 221,55 | 128,83 | 4,46 | 0,84 | 0,94 | 12,20 | 0,27 | 0,15 | 0,22 |
| 1,2 | 30168,60 | 1217,75 | 204,00 | 171,50 | 242,20 | 3152,70 | 60,90 | 38,25 | 55,70 | 227,55 | 124,56 | 5,03 | 0,84 | 0,71 | 13,02 | 0,25 | 0,16 | 0,23 |
| 1,4 | 27468,90 | 1228,70 | 195,35 | 136,30 | 241,30 | 3551,20 | 60,70 | 38,15 | 68,10 | 220,65 | 113,84 | 5,09 | 0,81 | 0,56 | 14,72 | 0,25 | 0,16 | 0,28 |
| 1,6 | 26940,00 | 1075,85 | 195,05 | 166,20 | 282,70 | 3967,90 | 59,60 | 33,85 | 56,50 | 226,70 | 95,30 | 3,81 | 0,69 | 0,59 | 14,04 | 0,21 | 0,12 | 0,20 |
| 1,8 | 28049,60 | 1012,70 | 170,30 | 167,80 | 260,40 | 3663,00 | 45,15 | 27,95 | 83,50 | 206,95 | 107,72 | 3,89 | 0,65 | 0,64 | 14,07 | 0,17 | 0,11 | 0,32 |
| 2,0 | 26910,00 | 1118,55 | 175,45 | 170,60 | 247,00 | 3467,80 | 58,10 | 30,75 | 90,50 | 215,90 | 108,95 | 4,53 | 0,71 | 0,69 | 14,04 | 0,24 | 0,12 | 0,37 |
| 2,2 | 26297,20 | 1099,75 | 193,50 | 173,60 | 285,30 | 3427,70 | 53,25 | 39,20 | 58,90 | 234,95 | 92,17 | 3,85 | 0,68 | 0,61 | 12,01 | 0,19 | 0,14 | 0,21 |
| 2,4 | 26033,00 | 1078,75 | 204,70 | 193,60 | 284,10 | 3494,90 | 47,25 | 32,20 | 101,60 | 239,55 | 91,63 | 3,80 | 0,72 | 0,68 | 12,30 | 0,17 | 0,11 | 0,36 |
| 2,6 | 23988,50 | 1135,25 | 192,45 | 151,90 | 256,00 | 3440,90 | 55,35 | 34,35 | 87,80 | 231,40 | 93,71 | 4,43 | 0,75 | 0,59 | 13,44 | 0,22 | 0,13 | 0,34 |
| 2,8 | 22506,00 | 1236,70 | 178,05 | 90,00 | 222,50 | 3229,00 | 57,25 | 36,70 | 109,50 | 217,75 | 101,15 | 5,56 | 0,80 | 0,40 | 14,51 | 0,26 | 0,16 | 0,49 |
| 3,0 | 20171,20 | 1375,30 | 170,30 | 77,40 | 194,80 | 2902,40 | 50,75 | 36,50 | 138,90 | 208,40 | 103,55 | 7,06 | 0,87 | 0,40 | 14,90 | 0,26 | 0,19 | 0,71 |
| 3,2 | 20354,40 | 1962,85 | 153,75 | 77,50 | 122,30 | 2294,40 | 44,75 | 28,85 | 149,30 | 122,55 | 166,43 | 16,05 | 1,26 | 0,63 | 18,76 | 0,37 | 0,24 | 1,22 |
| 3,4 | 19510,40 | 1911,80 | 121,55 | 70,40 | 108,70 | 2350,80 | 42,10 | 35,55 | 136,80 | 143,80 | 179,49 | 17,59 | 1,12 | 0,65 | 21,63 | 0,39 | 0,33 | 1,26 |
| 3,6 | 17169,10 | 1349,60 | 164,65 | 89,50 | 177,90 | 2786,80 | 44,35 | 37,25 | 146,30 | 183,10 | 96,51 | 7,59 | 0,93 | 0,50 | 15,66 | 0,25 | 0,21 | 0,82 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3,8 | 16838,20 | 1178,10 | 182,55 | 101,60 | 186,30 | 2998,80 | 52,45 | 38,80 | 156,10 | 216,75 | 90,38 | 6,32 | 0,98 | 0,55 | 16,10 | 0,28 | 0,21 | 0,84 |
| 4,0 | 15964,80 | 1085,45 | 188,70 | 91,20 | 185,60 | 3258,90 | 51,80 | 38,45 | 128,60 | 218,30 | 86,02 | 5,85 | 1,02 | 0,49 | 17,56 | 0,28 | 0,21 | 0,69 |
| 4,2 | 18543,50 | 1285,30 | 201,95 | 106,60 | 194,90 | 3262,50 | 47,05 | 34,85 | 146,60 | 230,55 | 95,14 | 6,59 | 1,04 | 0,55 | 16,74 | 0,24 | 0,18 | 0,75 |
| 4,4 | 19451,80 | 1130,50 | 167,05 | 120,60 | 244,20 | 3286,20 | 54,45 | 31,95 | 92,70 | 231,65 | 79,66 | 4,63 | 0,68 | 0,49 | 13,46 | 0,22 | 0,13 | 0,38 |
| 4,6 | 20057,70 | 1004,30 | 201,55 | 145,50 | 235,50 | 3340,30 | 54,55 | 36,50 | 114,00 | 242,90 | 85,17 | 4,26 | 0,86 | 0,62 | 14,18 | 0,23 | 0,15 | 0,48 |
| 4,8 | 21941,10 | 984,60 | 186,35 | 149,10 | 253,90 | 3325,10 | 54,85 | 34,35 | 81,70 | 263,00 | 86,42 | 3,88 | 0,73 | 0,59 | 13,10 | 0,22 | 0,14 | 0,32 |
| 5,0 | 20675,10 | 908,95 | 187,10 | 115,80 | 230,70 | 3168,30 | 57,35 | 39,35 | 121,10 | 237,25 | 89,62 | 3,94 | 0,81 | 0,50 | 13,73 | 0,25 | 0,17 | 0,52 |
| 5,2 | 19928,60 | 979,30 | 167,75 | 113,00 | 219,50 | 3194,50 | 60,95 | 38,35 | 96,80 | 243,65 | 90,79 | 4,46 | 0,76 | 0,51 | 14,55 | 0,28 | 0,17 | 0,44 |
| 5,4 | 19946,80 | 1018,90 | 180,00 | 133,10 | 221,50 | 3157,50 | 51,10 | 45,40 | 80,40 | 221,85 | 90,05 | 4,60 | 0,81 | 0,60 | 14,26 | 0,23 | 0,20 | 0,36 |
| 5,6 | 18279,60 | 937,65 | 169,30 | 91,90 | 217,60 | 2917,00 | 49,50 | 35,55 | 72,70 | 220,10 | 84,01 | 4,31 | 0,78 | 0,42 | 13,41 | 0,23 | 0,16 | 0,33 |
| 5,8 | 20083,10 | 906,85 | 169,60 | 102,60 | 205,80 | 2959,40 | 51,50 | 36,80 | 71,10 | 184,10 | 97,59 | 4,41 | 0,82 | 0,50 | 14,38 | 0,25 | 0,18 | 0,35 |
| 6,0 | 20678,70 | 778,20 | 210,20 | 131,40 | 225,10 | 3130,00 | 47,20 | 29,10 | 91,40 | 254,50 | 91,86 | 3,46 | 0,93 | 0,58 | 13,90 | 0,21 | 0,13 | 0,41 |
| 6,2 | 20961,40 | 756,15 | 175,60 | 128,90 | 220,90 | 3018,70 | 46,85 | 35,25 | 84,60 | 208,90 | 94,89 | 3,42 | 0,79 | 0,58 | 13,67 | 0,21 | 0,16 | 0,38 |
| 6,4 | 18124,60 | 884,85 | 172,80 | 104,80 | 151,00 | 2773,60 | 50,10 | 39,05 | 77,80 | 215,10 | 120,03 | 5,86 | 1,14 | 0,69 | 18,37 | 0,33 | 0,26 | 0,52 |
| 6,6 | 16179,50 | 1057,60 | 150,60 | 82,60 | 159,80 | 2791,20 | 47,15 | 38,55 | 91,70 | 220,15 | 101,25 | 6,62 | 0,94 | 0,52 | 17,47 | 0,30 | 0,24 | 0,57 |
| 6,8 | 18040,90 | 1145,15 | 130,00 | 100,70 | 188,90 | 2865,30 | 46,45 | 41,10 | 136,60 | 180,50 | 95,51 | 6,06 | 0,69 | 0,53 | 15,17 | 0,25 | 0,22 | 0,72 |
| 7,0 | 20125,30 | 1221,30 | 134,55 | 95,50 | 159,80 | 2589,50 | 49,80 | 43,85 | 115,80 | 181,30 | 125,94 | 7,64 | 0,84 | 0,60 | 16,20 | 0,31 | 0,27 | 0,72 |
| 7,2 | 19439,10 | 1230,70 | 141,80 | 86,10 | 196,30 | 2489,00 | 46,85 | 35,80 | 114,00 | 161,70 | 99,03 | 6,27 | 0,72 | 0,44 | 12,68 | 0,24 | 0,18 | 0,58 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7,4 | 16813,40 | 1213,55 | 162,65 | 66,60 | 159,20 | 2428,90 | 49,25 | 34,15 | 110,80 | 190,30 | 105,61 | 7,62 | 1,02 | 0,42 | 15,26 | 0,31 | 0,21 | 0,70 |
| 7,6 | 18401,50 | 1280,70 | 133,70 | 91,10 | 153,40 | 2420,50 | 46,25 | 30,90 | 92,60 | 179,60 | 119,96 | 8,35 | 0,87 | 0,59 | 15,78 | 0,30 | 0,20 | 0,60 |
| 7,8 | 17855,90 | 1224,90 | 129,95 | 72,80 | 140,40 | 2538,80 | 49,70 | 41,70 | 117,70 | 174,60 | 127,18 | 8,72 | 0,93 | 0,52 | 18,08 | 0,35 | 0,30 | 0,84 |
| 8,0 | 15116,80 | 1282,90 | 147,25 | 58,40 | 149,10 | 2233,60 | 47,60 | 40,25 | 116,90 | 161,55 | 101,39 | 8,60 | 0,99 | 0,39 | 14,98 | 0,32 | 0,27 | 0,78 |
| 8,2 | 14681,40 | 1252,10 | 144,35 | 59,20 | 123,00 | 2148,60 | 45,90 | 39,00 | 138,00 | 167,35 | 119,36 | 10,18 | 1,17 | 0,48 | 17,47 | 0,37 | 0,32 | 1,12 |
| 8,4 | 14844,30 | 1177,45 | 145,50 | 56,90 | 126,80 | 2314,80 | 50,50 | 36,15 | 135,20 | 164,70 | 117,07 | 9,29 | 1,15 | 0,45 | 18,26 | 0,40 | 0,29 | 1,07 |
| 8,6 | 12765,00 | 1088,75 | 158,35 | 50,20 | 106,80 | 2112,20 | 55,75 | 38,40 | 133,00 | 198,45 | 119,52 | 10,19 | 1,48 | 0,47 | 19,78 | 0,52 | 0,36 | 1,25 |
| 8,8 | 14742,60 | 1075,30 | 147,55 | 73,50 | 119,40 | 2169,10 | 53,20 | 42,85 | 124,30 | 196,60 | 123,47 | 9,01 | 1,24 | 0,62 | 18,17 | 0,45 | 0,36 | 1,04 |
| 9,0 | 15595,10 | 1213,70 | 156,05 | 62,10 | 109,00 | 2287,20 | 59,90 | 44,00 | 131,10 | 186,00 | 143,07 | 11,13 | 1,43 | 0,57 | 20,98 | 0,55 | 0,40 | 1,20 |
| 9,2 | 16666,90 | 1335,40 | 158,25 | 66,80 | 163,00 | 2404,10 | 54,25 | 39,55 | 114,30 | 160,10 | 102,25 | 8,19 | 0,97 | 0,41 | 14,75 | 0,33 | 0,24 | 0,70 |
| 9,4 | 15337,50 | 1229,65 | 149,60 | 60,00 | 135,30 | 2367,00 | 54,15 | 35,45 | 120,60 | 165,25 | 113,36 | 9,09 | 1,11 | 0,44 | 17,49 | 0,40 | 0,26 | 0,89 |
| 9,6 | 15085,10 | 1063,30 | 140,70 | 67,80 | 112,30 | 2018,40 | 47,60 | 35,70 | 116,70 | 147,35 | 134,33 | 9,47 | 1,25 | 0,60 | 17,97 | 0,42 | 0,32 | 1,04 |
| 9,8 | 15905,70 | 1200,45 | 125,50 | 78,90 | 155,30 | 2032,40 | 47,05 | 35,00 | 124,70 | 130,90 | 102,42 | 7,73 | 0,81 | 0,51 | 13,09 | 0,30 | 0,23 | 0,80 |
| 10,0 | 13417,90 | 1106,40 | 123,70 | 69,80 | 117,50 | 1965,50 | 40,95 | 35,05 | 71,70 | 141,05 | 114,19 | 9,42 | 1,05 | 0,59 | 16,73 | 0,35 | 0,30 | 0,61 |
| 10,2 | 13364,90 | 1148,35 | 144,95 | 61,30 | 97,40 | 1974,70 | 47,85 | 29,05 | 120,20 | 143,30 | 137,22 | 11,79 | 1,49 | 0,63 | 20,27 | 0,49 | 0,30 | 1,23 |
| 10,4 | 14765,40 | 1115,05 | 140,25 | 71,60 | 122,70 | 2075,40 | 50,30 | 35,25 | 115,70 | 159,50 | 120,34 | 9,09 | 1,14 | 0,58 | 16,91 | 0,41 | 0,29 | 0,94 |
| 10,6 | 15326,30 | 1151,10 | 125,35 | 54,30 | 138,90 | 2063,00 | 49,20 | 32,95 | 115,30 | 147,45 | 110,34 | 8,29 | 0,90 | 0,39 | 14,85 | 0,35 | 0,24 | 0,83 |
| 10,8 | 16798,70 | 995,60 | 134,55 | 69,30 | 117,10 | 2267,50 | 56,60 | 40,10 | 104,00 | 149,10 | 143,46 | 8,50 | 1,15 | 0,59 | 19,36 | 0,48 | 0,34 | 0,89 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11,0 | 16281,10 | 916,70 | 146,50 | 84,00 | 151,50 | 2269,20 | 52,30 | 39,85 | 134,40 | 175,70 | 107,47 | 6,05 | 0,97 | 0,55 | 14,98 | 0,35 | 0,26 | 0,89 |
| 11,2 | 15634,10 | 872,75 | 157,80 | 47,20 | 150,00 | 2219,30 | 52,50 | 42,70 | 116,10 | 201,65 | 104,23 | 5,82 | 1,05 | 0,31 | 14,80 | 0,35 | 0,28 | 0,77 |
| 11,4 | 16443,40 | 939,85 | 136,60 | 51,70 | 143,00 | 2141,90 | 59,85 | 44,85 | 102,00 | 168,95 | 114,99 | 6,57 | 0,96 | 0,36 | 14,98 | 0,42 | 0,31 | 0,71 |
| 11,6 | 15666,30 | 952,30 | 167,50 | 49,50 | 130,10 | 2137,70 | 59,65 | 50,00 | 132,00 | 184,25 | 120,42 | 7,32 | 1,29 | 0,38 | 16,43 | 0,46 | 0,38 | 1,01 |
| 11,8 | 17447,40 | 930,85 | 164,00 | 66,10 | 153,80 | 2080,70 | 51,90 | 39,65 | 128,80 | 156,00 | 113,44 | 6,05 | 1,07 | 0,43 | 13,53 | 0,34 | 0,26 | 0,84 |
| 12,0 | 17595,30 | 902,70 | 164,30 | 72,20 | 135,10 | 2181,70 | 59,00 | 42,85 | 131,20 | 178,50 | 130,24 | 6,68 | 1,22 | 0,53 | 16,15 | 0,44 | 0,32 | 0,97 |
| 12,2 | 18159,90 | 926,50 | 160,10 | 68,70 | 156,50 | 2377,70 | 58,20 | 34,20 | 132,40 | 176,00 | 116,04 | 5,92 | 1,02 | 0,44 | 15,19 | 0,37 | 0,22 | 0,85 |
| 12,4 | 17878,40 | 1022,95 | 180,55 | 49,10 | 170,80 | 2481,20 | 61,85 | 37,70 | 107,00 | 205,20 | 104,67 | 5,99 | 1,06 | 0,29 | 14,53 | 0,36 | 0,22 | 0,63 |
| 12,6 | 21626,90 | 964,80 | 193,40 | 82,90 | 170,30 | 2660,30 | 60,70 | 44,35 | 97,00 | 200,85 | 126,99 | 5,67 | 1,14 | 0,49 | 15,62 | 0,36 | 0,26 | 0,57 |
| 12,8 | 18171,50 | 950,30 | 173,95 | 61,10 | 149,80 | 2430,90 | 58,15 | 33,10 | 107,70 | 204,80 | 121,31 | 6,34 | 1,16 | 0,41 | 16,23 | 0,39 | 0,22 | 0,72 |
| 13,0 | 15780,80 | 945,05 | 172,00 | 63,90 | 122,80 | 2250,70 | 54,90 | 44,40 | 157,20 | 187,60 | 128,51 | 7,70 | 1,40 | 0,52 | 18,33 | 0,45 | 0,36 | 1,28 |
| 13,2 | 15896,90 | 970,70 | 165,45 | 80,90 | 154,00 | 2133,60 | 57,35 | 49,65 | 188,40 | 207,85 | 103,23 | 6,30 | 1,07 | 0,53 | 13,85 | 0,37 | 0,32 | 1,22 |
| 13,4 | 13736,30 | 923,30 | 191,75 | 60,30 | 91,90 | 2096,10 | 51,25 | 50,75 | 144,00 | 179,85 | 149,47 | 10,05 | 2,09 | 0,66 | 22,81 | 0,56 | 0,55 | 1,57 |
| 13,6 | 9949,00 | 920,25 | 194,70 | 21,10 | 82,30 | 1876,30 | 54,65 | 49,50 | 149,30 | 191,25 | 120,89 | 11,18 | 2,37 | 0,26 | 22,80 | 0,66 | 0,60 | 1,81 |
| 13,8 | 13637,40 | 939,50 | 200,85 | 25,40 | 127,00 | 1915,30 | 56,40 | 44,45 | 120,50 | 194,50 | 107,38 | 7,40 | 1,58 | 0,20 | 15,08 | 0,44 | 0,35 | 0,95 |
| 14,0 | 15383,30 | 957,65 | 168,65 | 40,10 | 127,80 | 2033,70 | 57,85 | 44,70 | 158,40 | 193,25 | 120,37 | 7,49 | 1,32 | 0,31 | 15,91 | 0,45 | 0,35 | 1,24 |
| 14,2 | 15687,50 | 928,50 | 181,60 | 39,60 | 122,90 | 2180,00 | 57,20 | 41,90 | 122,90 | 222,80 | 127,64 | 7,55 | 1,48 | 0,32 | 17,74 | 0,47 | 0,34 | 1,00 |
| 14,4 | 14311,40 | 919,30 | 174,00 | 31,30 | 127,20 | 2146,50 | 60,40 | 42,70 | 141,80 | 221,25 | 112,51 | 7,23 | 1,37 | 0,25 | 16,88 | 0,47 | 0,34 | 1,11 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14,6 | 15486,70 | 921,25 | 174,25 | 37,20 | 92,10 | 2158,40 | 62,10 | 41,65 | 151,50 | 183,70 | 168,15 | 10,00 | 1,89 | 0,40 | 23,44 | 0,67 | 0,45 | 1,64 |
| 14,8 | 17023,10 | 936,75 | 165,20 | 57,20 | 134,90 | 2272,40 | 66,50 | 47,65 | 144,20 | 210,40 | 126,19 | 6,94 | 1,22 | 0,42 | 16,85 | 0,49 | 0,35 | 1,07 |
| 15,0 | 15519,40 | 914,20 | 191,85 | 43,40 | 142,80 | 2429,20 | 65,85 | 53,35 | 143,40 | 200,65 | 108,68 | 6,40 | 1,34 | 0,30 | 17,01 | 0,46 | 0,37 | 1,00 |
| 15,2 | 15773,00 | 973,55 | 179,90 | 42,50 | 170,40 | 2522,30 | 69,35 | 45,00 | 139,90 | 217,45 | 92,56 | 5,71 | 1,06 | 0,25 | 14,80 | 0,41 | 0,26 | 0,82 |
| 15,4 | 15383,10 | 960,05 | 188,00 | 39,70 | 128,40 | 2488,50 | 66,10 | 44,70 | 143,70 | 236,35 | 119,81 | 7,48 | 1,46 | 0,31 | 19,38 | 0,51 | 0,35 | 1,12 |
| 15,6 | 16279,80 | 941,65 | 188,95 | 47,40 | 158,30 | 2481,30 | 73,50 | 53,25 | 135,90 | 226,00 | 102,84 | 5,95 | 1,19 | 0,30 | 15,67 | 0,46 | 0,34 | 0,86 |
| 15,8 | 19262,30 | 971,60 | 194,45 | 65,20 | 160,30 | 2732,10 | 67,50 | 55,10 | 135,80 | 232,10 | 120,16 | 6,06 | 1,21 | 0,41 | 17,04 | 0,42 | 0,34 | 0,85 |
| 16,0 | 19999,80 | 945,60 | 212,40 | 68,00 | 194,90 | 2733,90 | 73,35 | 46,80 | 162,70 | 230,65 | 102,62 | 4,85 | 1,09 | 0,35 | 14,03 | 0,38 | 0,24 | 0,83 |
| 16,2 | 18421,20 | 873,80 | 206,50 | 87,20 | 174,60 | 2969,20 | 65,50 | 42,20 | 125,80 | 237,45 | 105,51 | 5,00 | 1,18 | 0,50 | 17,01 | 0,38 | 0,24 | 0,72 |
| 16,4 | 17925,90 | 907,05 | 190,80 | 92,40 | 189,10 | 2910,50 | 69,70 | 83,15 | 122,10 | 244,85 | 94,80 | 4,80 | 1,01 | 0,49 | 15,39 | 0,37 | 0,44 | 0,65 |
| 16,6 | 18791,10 | 889,60 | 187,40 | 80,80 | 178,40 | 2923,50 | 57,35 | 124,35 | 113,20 | 230,85 | 105,33 | 4,99 | 1,05 | 0,45 | 16,39 | 0,32 | 0,70 | 0,63 |
| 16,8 | 22485,90 | 881,60 | 227,60 | 124,50 | 248,80 | 3255,00 | 69,70 | 56,50 | 117,50 | 272,70 | 90,38 | 3,54 | 0,91 | 0,50 | 13,08 | 0,28 | 0,23 | 0,47 |
| 17,0 | 21376,60 | 770,50 | 249,05 | 118,60 | 254,30 | 3483,40 | 72,35 | 40,05 | 123,00 | 259,55 | 84,06 | 3,03 | 0,98 | 0,47 | 13,70 | 0,28 | 0,16 | 0,48 |
| 17,2 | 19166,20 | 745,30 | 232,45 | 104,20 | 289,30 | 3784,00 | 64,25 | 32,85 | 100,10 | 290,95 | 66,25 | 2,58 | 0,80 | 0,36 | 13,08 | 0,22 | 0,11 | 0,35 |
| 17,4 | 19927,90 | 707,60 | 297,60 | 111,20 | 312,40 | 4200,30 | 77,70 | 41,55 | 99,70 | 357,05 | 63,79 | 2,27 | 0,95 | 0,36 | 13,45 | 0,25 | 0,13 | 0,32 |
| 17,6 | 21551,30 | 741,25 | 241,70 | 126,70 | 274,70 | 4003,20 | 68,85 | 47,95 | 134,80 | 365,95 | 78,45 | 2,70 | 0,88 | 0,46 | 14,57 | 0,25 | 0,17 | 0,49 |
| 17,8 | 22541,10 | 759,90 | 192,75 | 138,90 | 244,40 | 3360,40 | 63,40 | 33,70 | 113,40 | 249,95 | 92,23 | 3,11 | 0,79 | 0,57 | 13,75 | 0,26 | 0,14 | 0,46 |
| 18,0 | 24098,70 | 773,50 | 160,15 | 115,70 | 207,30 | 2756,40 | 52,10 | 34,70 | 114,20 | 191,05 | 116,25 | 3,73 | 0,77 | 0,56 | 13,30 | 0,25 | 0,17 | 0,55 |

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**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18,2 | 23682,60 | 720,05 | 172,70 | 67,30 | 205,60 | 2762,10 | 54,75 | 38,90 | 136,20 | 199,65 | 115,19 | 3,50 | 0,84 | 0,33 | 13,43 | 0,27 | 0,19 | 0,66 |
| 18,4 | 19938,70 | 770,00 | 167,10 | 65,20 | 169,40 | 2503,60 | 49,60 | 40,50 | 138,30 | 183,10 | 117,70 | 4,55 | 0,99 | 0,38 | 14,78 | 0,29 | 0,24 | 0,82 |
| 18,6 | 19219,00 | 789,85 | 170,80 | 33,20 | 151,90 | 2294,20 | 52,80 | 40,05 | 147,30 | 163,15 | 126,52 | 5,20 | 1,12 | 0,22 | 15,10 | 0,35 | 0,26 | 0,97 |
| 18,8 | 20401,40 | 836,95 | 159,40 | 51,50 | 157,50 | 2452,00 | 52,45 | 47,40 | 146,70 | 198,35 | 129,53 | 5,31 | 1,01 | 0,33 | 15,57 | 0,33 | 0,30 | 0,93 |
| 19,0 | 22281,20 | 833,40 | 179,80 | 56,40 | 186,60 | 2594,50 | 62,00 | 46,25 | 132,20 | 182,45 | 119,41 | 4,47 | 0,96 | 0,30 | 13,90 | 0,33 | 0,25 | 0,71 |
| 19,2 | 23118,00 | 824,85 | 157,75 | 54,50 | 167,70 | 2520,00 | 59,50 | 44,20 | 153,70 | 170,20 | 137,85 | 4,92 | 0,94 | 0,32 | 15,03 | 0,35 | 0,26 | 0,92 |
| 19,4 | 23507,20 | 867,15 | 161,50 | 63,60 | 164,80 | 2406,90 | 57,55 | 45,20 | 136,20 | 179,60 | 142,64 | 5,26 | 0,98 | 0,39 | 14,60 | 0,35 | 0,27 | 0,83 |
| 19,6 | 23689,30 | 939,80 | 152,70 | 51,10 | 166,70 | 2256,40 | 60,75 | 47,65 | 107,00 | 166,90 | 142,11 | 5,64 | 0,92 | 0,31 | 13,54 | 0,36 | 0,29 | 0,64 |
| 19,8 | 26087,60 | 948,25 | 151,00 | 82,80 | 173,70 | 2342,70 | 59,30 | 50,15 | 147,20 | 158,45 | 150,19 | 5,46 | 0,87 | 0,48 | 13,49 | 0,34 | 0,29 | 0,85 |
| 20,0 | 24012,60 | 794,15 | 135,85 | 79,30 | 185,30 | 2267,80 | 62,10 | 49,95 | 169,50 | 150,90 | 129,59 | 4,29 | 0,73 | 0,43 | 12,24 | 0,34 | 0,27 | 0,91 |
| 20,2 | 23141,10 | 715,15 | 115,75 | 76,80 | 140,00 | 2219,20 | 55,25 | 55,20 | 155,40 | 157,45 | 165,29 | 5,11 | 0,83 | 0,55 | 15,85 | 0,39 | 0,39 | 1,11 |
| 20,4 | 21813,30 | 595,15 | 138,65 | 75,20 | 115,80 | 2198,50 | 52,10 | 54,90 | 158,30 | 120,85 | 188,37 | 5,14 | 1,20 | 0,65 | 18,99 | 0,45 | 0,47 | 1,37 |
| 20,6 | 19897,20 | 574,80 | 103,15 | 84,40 | 150,10 | 2162,70 | 50,90 | 61,50 | 173,90 | 98,60 | 132,56 | 3,83 | 0,69 | 0,56 | 14,41 | 0,34 | 0,41 | 1,16 |
| 20,8 | 20202,00 | 589,65 | 134,00 | 73,30 | 136,50 | 2204,80 | 53,25 | 50,75 | 172,10 | 117,10 | 148,00 | 4,32 | 0,98 | 0,54 | 16,15 | 0,39 | 0,37 | 1,26 |
| 21,0 | 22657,10 | 547,65 | 87,45 | 82,00 | 157,40 | 2055,10 | 45,90 | 49,10 | 159,90 | 94,80 | 143,95 | 3,48 | 0,56 | 0,52 | 13,06 | 0,29 | 0,31 | 1,02 |
| 21,2 | 25036,70 | 539,80 | 103,70 | 95,30 | 141,60 | 2060,10 | 47,30 | 55,10 | 169,40 | 111,85 | 176,81 | 3,81 | 0,73 | 0,67 | 14,55 | 0,33 | 0,39 | 1,20 |
| 21,4 | 26817,80 | 590,85 | 112,25 | 74,80 | 140,00 | 1945,70 | 53,75 | 51,80 | 167,20 | 124,60 | 191,56 | 4,22 | 0,80 | 0,53 | 13,90 | 0,38 | 0,37 | 1,19 |
| 21,6 | 26821,40 | 512,00 | 89,65 | 77,30 | 103,30 | 1893,20 | 43,65 | 51,70 | 157,60 | 88,45 | 259,65 | 4,96 | 0,87 | 0,75 | 18,33 | 0,42 | 0,50 | 1,53 |

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**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21,8 | 25735,10 | 500,55 | 91,85 | 85,40 | 125,60 | 1914,90 | 42,15 | 51,15 | 152,60 | 91,20 | 204,90 | 3,99 | 0,73 | 0,68 | 15,25 | 0,34 | 0,41 | 1,21 |
| 22,0 | 25460,30 | 496,10 | 103,25 | 90,20 | 108,90 | 1911,20 | 43,15 | 54,75 | 179,60 | 89,55 | 233,80 | 4,56 | 0,95 | 0,83 | 17,55 | 0,40 | 0,50 | 1,65 |
| 22,2 | 22963,90 | 474,30 | 104,10 | 66,30 | 117,90 | 1796,70 | 41,25 | 41,90 | 159,80 | 108,00 | 194,77 | 4,02 | 0,88 | 0,56 | 15,24 | 0,35 | 0,36 | 1,36 |
| 22,4 | 22880,00 | 473,00 | 121,85 | 77,30 | 98,60 | 1840,00 | 46,15 | 40,85 | 138,00 | 100,50 | 232,05 | 4,80 | 1,24 | 0,78 | 18,66 | 0,47 | 0,41 | 1,40 |
| 22,6 | 25960,10 | 508,15 | 113,00 | 64,80 | 122,30 | 1837,20 | 44,05 | 44,60 | 128,90 | 103,85 | 212,27 | 4,15 | 0,92 | 0,53 | 15,02 | 0,36 | 0,36 | 1,05 |
| 22,8 | 25807,70 | 492,25 | 98,50 | 61,40 | 92,40 | 1770,50 | 41,70 | 35,10 | 164,60 | 90,85 | 279,30 | 5,33 | 1,07 | 0,66 | 19,16 | 0,45 | 0,38 | 1,78 |
| 23,0 | 24977,80 | 421,35 | 78,40 | 69,90 | 115,30 | 1680,20 | 42,15 | 46,85 | 169,70 | 81,55 | 216,63 | 3,65 | 0,68 | 0,61 | 14,57 | 0,37 | 0,41 | 1,47 |
| 23,2 | 25780,20 | 472,40 | 99,45 | 73,20 | 105,50 | 1733,00 | 49,70 | 45,25 | 176,20 | 78,80 | 244,36 | 4,48 | 0,94 | 0,69 | 16,43 | 0,47 | 0,43 | 1,67 |
| 23,4 | 28538,90 | 416,55 | 97,95 | 88,10 | 92,30 | 1725,90 | 45,05 | 44,60 | 165,00 | 65,35 | 309,20 | 4,51 | 1,06 | 0,95 | 18,70 | 0,49 | 0,48 | 1,79 |
| 23,6 | 30375,40 | 413,95 | 75,05 | 87,80 | 70,80 | 1639,70 | 47,75 | 43,15 | 179,80 | 66,20 | 429,03 | 5,85 | 1,06 | 1,24 | 23,16 | 0,67 | 0,61 | 2,54 |
| 23,8 | 29643,30 | 404,05 | 106,00 | 68,90 | 102,70 | 1597,00 | 45,00 | 44,50 | 163,40 | 97,65 | 288,64 | 3,93 | 1,03 | 0,67 | 15,55 | 0,44 | 0,43 | 1,59 |
| 24,0 | 29062,70 | 432,35 | 90,45 | 80,50 | 59,20 | 2116,40 | 46,15 | 44,90 | 190,40 | 100,15 | 490,92 | 7,30 | 1,53 | 1,36 | 35,75 | 0,78 | 0,76 | 3,22 |
| 24,2 | 28860,40 | 429,15 | 95,10 | 82,20 | 99,20 | 1725,90 | 42,10 | 38,70 | 184,80 | 88,55 | 290,93 | 4,33 | 0,96 | 0,83 | 17,40 | 0,42 | 0,39 | 1,86 |
| 24,4 | 24170,80 | 429,55 | 83,35 | 59,90 | 104,10 | 1413,50 | 40,50 | 34,80 | 158,30 | 81,75 | 232,19 | 4,13 | 0,80 | 0,58 | 13,58 | 0,39 | 0,33 | 1,52 |
| 24,6 | 27425,30 | 422,85 | 101,05 | 48,40 | 58,70 | 1385,20 | 34,55 | 34,70 | 118,00 | 89,25 | 467,21 | 7,20 | 1,72 | 0,82 | 23,60 | 0,59 | 0,59 | 2,01 |
| 24,8 | 30814,50 | 386,05 | 92,40 | 36,80 | 77,60 | 1157,10 | 29,40 | 32,20 | 87,30 | 74,90 | 397,09 | 4,97 | 1,19 | 0,47 | 14,91 | 0,38 | 0,41 | 1,13 |
| 25,0 | 35440,90 | 339,65 | 60,45 | 27,40 | 38,40 | 784,30 | 22,00 | 20,55 | 87,40 | 52,70 | 922,94 | 8,85 | 1,57 | 0,71 | 20,42 | 0,57 | 0,54 | 2,28 |
| 25,2 | 38766,90 | 300,95 | 65,05 | 31,20 | 42,40 | 682,30 | 20,20 | 25,85 | 86,20 | 47,40 | 914,31 | 7,10 | 1,53 | 0,74 | 16,09 | 0,48 | 0,61 | 2,03 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25,4 | 37232,50 | 325,35 | 72,35 | 30,60 | 27,60 | 706,70 | 19,90 | 25,25 | 98,00 | 61,55 | 1349,00 | 11,79 | 2,62 | 1,11 | 25,61 | 0,72 | 0,91 | 3,55 |
| 25,6 | 37089,70 | 299,85 | 24,15 | 31,50 | 24,90 | 748,50 | 18,50 | 18,40 | 87,70 | 47,35 | 1489,55 | 12,04 | 0,97 | 1,27 | 30,06 | 0,74 | 0,74 | 3,52 |
| 25,8 | 36856,80 | 310,70 | 68,15 | 22,20 | 48,60 | 747,00 | 18,40 | 22,75 | 108,50 | 55,35 | 758,37 | 6,39 | 1,40 | 0,46 | 15,37 | 0,38 | 0,47 | 2,23 |
| 26,0 | 39937,60 | 311,40 | 36,65 | 17,40 | 28,60 | 705,00 | 19,60 | 19,35 | 89,90 | 52,40 | 1396,42 | 10,89 | 1,28 | 0,61 | 24,65 | 0,69 | 0,68 | 3,14 |
| 26,2 | 40087,50 | 305,25 | 33,10 | 8,40 | 54,60 | 642,40 | 20,25 | 19,75 | 79,80 | 48,40 | 734,20 | 5,59 | 0,61 | 0,15 | 11,77 | 0,37 | 0,36 | 1,46 |
| 26,4 | 39864,10 | 308,50 | 48,10 | 25,20 | 17,20 | 654,30 | 19,40 | 17,20 | 70,20 | 51,90 | 2317,68 | 17,94 | 2,80 | 1,47 | 38,04 | 1,13 | 1,00 | 4,08 |
| 26,6 | 38568,20 | 301,15 | 44,45 | 3,80 | 28,00 | 575,10 | 20,70 | 14,95 | 55,90 | 52,70 | 1377,44 | 10,76 | 1,59 | 0,14 | 20,54 | 0,74 | 0,53 | 2,00 |
| 26,8 | 42573,90 | 307,25 | 72,35 | 17,10 | 15,30 | 616,10 | 18,95 | 24,20 | 63,30 | 65,90 | 2782,61 | 20,08 | 4,73 | 1,12 | 40,27 | 1,24 | 1,58 | 4,14 |
| 27,0 | 42504,20 | 336,45 | 24,45 | 30,40 | 14,40 | 595,10 | 22,20 | 18,90 | 65,60 | 46,40 | 2951,68 | 23,36 | 1,70 | 2,11 | 41,33 | 1,54 | 1,31 | 4,56 |
| 27,2 | 44158,20 | 302,00 | 47,40 | 15,40 | 18,80 | 605,30 | 18,85 | 17,15 | 62,90 | 50,40 | 2348,84 | 16,06 | 2,52 | 0,82 | 32,20 | 1,00 | 0,91 | 3,35 |
| 27,4 | 42825,20 | 317,90 | 38,50 | 13,70 | 27,90 | 702,00 | 17,40 | 19,95 | 71,40 | 47,55 | 1534,95 | 11,39 | 1,38 | 0,49 | 25,16 | 0,62 | 0,72 | 2,56 |
| 27,6 | 43279,60 | 309,35 | 49,10 | 28,90 | 40,00 | 983,90 | 13,70 | 16,50 | 99,90 | 50,15 | 1081,99 | 7,73 | 1,23 | 0,72 | 24,60 | 0,34 | 0,41 | 2,50 |
| 27,8 | 41044,30 | 303,70 | 46,90 | 15,20 | 30,00 | 1109,00 | 20,40 | 18,25 | 122,30 | 44,85 | 1368,14 | 10,12 | 1,56 | 0,51 | 36,97 | 0,68 | 0,61 | 4,08 |
| 28,0 | 40189,60 | 347,35 | 50,50 | 17,00 | 34,30 | 855,20 | 21,10 | 29,50 | 88,50 | 58,00 | 1171,71 | 10,13 | 1,47 | 0,50 | 24,93 | 0,62 | 0,86 | 2,58 |
| 28,2 | 41121,10 | 346,80 | 43,40 | 19,50 | -10,20 | 836,20 | 23,20 | 30,25 | 88,20 | 62,10 | | | | | | | | |
| 28,4 | 41490,70 | 339,10 | 46,70 | 16,00 | 15,10 | 889,20 | 21,30 | 30,70 | 88,60 | 51,45 | 2747,73 | 22,46 | 3,09 | 1,06 | 58,89 | 1,41 | 2,03 | 5,87 |
| 28,6 | 39190,60 | 314,65 | 78,85 | 14,20 | 8,90 | 1000,90 | 20,60 | 28,40 | 97,80 | 51,30 | 4403,44 | 35,35 | 8,86 | 1,60 | 112,46 | 2,31 | 3,19 | 10,99 |
| 28,8 | 41281,40 | 328,75 | 58,95 | 13,70 | 11,90 | 683,40 | 18,70 | 22,40 | 79,00 | 35,25 | 3469,03 | 27,63 | 4,95 | 1,15 | 57,43 | 1,57 | 1,88 | 6,64 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29,0 | 39371,20 | 298,00 | 59,05 | 11,30 | 12,30 | 578,20 | 20,75 | 13,75 | 91,30 | 50,40 | 3200,91 | 24,23 | 4,80 | 0,92 | 47,01 | 1,69 | 1,12 | 7,42 |
| 29,2 | 37682,70 | 321,95 | 58,80 | 7,20 | 4,80 | 577,10 | 18,70 | 18,80 | 66,40 | 53,55 | 7850,56 | 67,07 | 12,25 | 1,50 | 120,23 | 3,90 | 3,92 | 13,83 |
| 29,4 | 35084,60 | 302,85 | 46,60 | 11,60 | 21,50 | 574,90 | 20,85 | 18,10 | 75,40 | 44,25 | 1631,84 | 14,09 | 2,17 | 0,54 | 26,74 | 0,97 | 0,84 | 3,51 |
| 29,6 | 36788,20 | 289,70 | 52,10 | 17,20 | -11,20 | 548,10 | 17,90 | 20,70 | 84,40 | 47,05 | | | | | | | | |
| 29,8 | 35944,20 | 326,80 | 54,65 | 19,60 | 40,60 | 545,50 | 18,25 | 22,05 | 86,60 | 75,30 | 885,33 | 8,05 | 1,35 | 0,48 | 13,44 | 0,45 | 0,54 | 2,13 |
| 30,0 | 35823,10 | 303,75 | 70,40 | 13,60 | 21,00 | 470,80 | 16,15 | 24,45 | 83,90 | 61,55 | 1705,86 | 14,46 | 3,35 | 0,65 | 22,42 | 0,77 | 1,16 | 4,00 |
| 30,2 | 37808,30 | 269,80 | 66,65 | 23,40 | 26,40 | 463,10 | 17,70 | 22,05 | 57,80 | 42,80 | 1432,13 | 10,22 | 2,52 | 0,89 | 17,54 | 0,67 | 0,84 | 2,19 |
| 30,4 | 38298,30 | 284,85 | 64,95 | 11,30 | 43,60 | 443,50 | 18,60 | 17,05 | 80,40 | 42,70 | 878,40 | 6,53 | 1,49 | 0,26 | 10,17 | 0,43 | 0,39 | 1,84 |
| 30,6 | 39596,90 | 285,20 | 63,25 | 17,40 | 20,10 | 445,30 | 18,30 | 18,30 | 91,60 | 52,90 | 1970,00 | 14,19 | 3,15 | 0,87 | 22,15 | 0,91 | 0,91 | 4,56 |
| 30,8 | 37737,90 | 286,90 | 53,55 | 22,40 | 29,40 | 456,60 | 19,85 | 14,75 | 138,70 | 53,45 | 1283,60 | 9,76 | 1,82 | 0,76 | 15,53 | 0,68 | 0,50 | 4,72 |
| 31,0 | 34532,80 | 289,25 | 59,90 | 3,40 | 19,00 | 472,70 | 21,50 | 20,60 | 101,70 | 65,65 | 1817,52 | 15,22 | 3,15 | 0,18 | 24,88 | 1,13 | 1,08 | 5,35 |
| 31,2 | 35936,70 | 283,95 | 40,55 | 7,70 | 16,90 | 417,90 | 17,55 | 17,00 | 72,00 | 37,30 | 2126,43 | 16,80 | 2,40 | 0,46 | 24,73 | 1,04 | 1,01 | 4,26 |
| 31,4 | 37334,70 | 265,75 | 57,60 | 9,00 | 12,60 | 428,80 | 18,35 | 12,05 | 56,50 | 49,00 | 2963,07 | 21,09 | 4,57 | 0,71 | 34,03 | 1,46 | 0,96 | 4,48 |
| 31,6 | 36391,80 | 273,45 | 64,10 | 7,70 | 14,00 | 428,50 | 19,30 | 22,00 | 58,50 | 56,30 | 2599,41 | 19,53 | 4,58 | 0,55 | 30,61 | 1,38 | 1,57 | 4,18 |
| 31,8 | 34897,80 | 307,15 | 42,75 | 10,40 | 6,10 | 407,40 | 17,25 | 19,65 | 56,70 | 62,95 | 5720,95 | 50,35 | 7,01 | 1,70 | 66,79 | 2,83 | 3,22 | 9,30 |
| 32,0 | 35406,90 | 297,60 | 35,60 | 8,20 | 26,00 | 389,30 | 18,70 | 21,25 | 65,60 | 50,50 | 1361,80 | 11,45 | 1,37 | 0,32 | 14,97 | 0,72 | 0,82 | 2,52 |
| 32,2 | 34466,10 | 268,45 | 60,25 | 5,00 | 43,60 | 420,80 | 14,65 | 16,20 | 45,00 | 42,30 | 790,51 | 6,16 | 1,38 | 0,11 | 9,65 | 0,34 | 0,37 | 1,03 |
| 32,4 | 35315,00 | 271,00 | 43,20 | 15,50 | 16,70 | 466,70 | 19,40 | 18,75 | 61,80 | 63,10 | 2114,67 | 16,23 | 2,59 | 0,93 | 27,95 | 1,16 | 1,12 | 3,70 |

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**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32,6 | 35435,80 | 261,70 | 37,20 | 9,40 | 4,80 | 429,20 | 18,10 | 19,50 | 57,40 | 54,50 | 109,04 | 54,52 | 7,75 | 1,96 | 89,42 | 3,77 | 4,06 | 11,96 |
| 32,8 | 34553,50 | 277,90 | 51,90 | 9,40 | 8,50 | 406,90 | 18,45 | 20,70 | 54,90 | 59,70 | 4065,12 | 32,69 | 6,11 | 1,11 | 47,87 | 2,17 | 2,44 | 6,46 |
| 33,0 | 32579,80 | 283,60 | 50,20 | 7,20 | -3,40 | 412,40 | 18,30 | 13,35 | 41,50 | 53,95 | | | | | | | | |
| 33,2 | 31254,60 | 268,25 | 46,70 | 0,50 | 23,50 | 451,20 | 19,95 | 22,60 | 62,40 | 53,90 | 1329,98 | 11,41 | 1,99 | 0,02 | 19,20 | 0,85 | 0,96 | 2,66 |
| 33,4 | 34983,70 | 287,75 | 39,00 | 18,70 | 23,00 | 468,60 | 13,95 | 21,85 | 69,50 | 52,65 | 1521,03 | 12,51 | 1,70 | 0,81 | 20,37 | 0,61 | 0,95 | 3,02 |
| 33,6 | 36589,50 | 284,10 | 45,85 | 16,40 | 33,20 | 455,80 | 16,45 | 21,40 | 68,80 | 70,35 | 1102,09 | 8,56 | 1,38 | 0,49 | 13,73 | 0,50 | 0,64 | 2,07 |
| 33,8 | 36030,00 | 302,10 | 75,35 | 14,50 | 33,90 | 444,50 | 18,20 | 20,25 | 36,90 | 50,85 | 1062,83 | 8,91 | 2,22 | 0,43 | 13,11 | 0,54 | 0,60 | 1,09 |
| 34,0 | 36651,00 | 276,65 | 45,70 | 6,90 | 5,00 | 493,00 | 18,70 | 19,10 | 45,60 | 57,10 | 7330,20 | 55,33 | 9,14 | 1,38 | 98,60 | 3,74 | 3,82 | 9,12 |
| 34,2 | 39341,80 | 315,50 | 44,45 | 12,00 | 39,80 | 476,50 | 15,10 | 15,70 | 31,80 | 65,80 | 988,49 | 7,93 | 1,12 | 0,30 | 11,97 | 0,38 | 0,39 | 0,80 |
| 34,4 | 38815,10 | 322,45 | 36,00 | 0,10 | -1,10 | 493,50 | 17,85 | 23,00 | 43,30 | 66,70 | | | | | | | | |
| 34,6 | 38857,00 | 295,80 | 52,80 | 25,90 | 3,70 | 512,30 | 16,35 | 19,95 | 56,40 | 40,25 | 10501,89 | 79,95 | 14,27 | 7,00 | 138,46 | 4,42 | 5,39 | 15,24 |
| 34,8 | 39343,00 | 333,65 | 71,15 | 11,40 | 20,50 | 527,00 | 19,90 | 19,90 | 54,40 | 48,05 | 1919,17 | 16,28 | 3,47 | 0,56 | 25,71 | 0,97 | 0,97 | 2,65 |
| 35,0 | 40899,10 | 322,30 | 54,40 | 9,00 | -3,30 | 498,40 | 14,80 | 19,35 | 38,10 | 50,90 | | | | | | | | |
| 35,2 | 42709,40 | 313,50 | 47,30 | 20,50 | 13,60 | 459,50 | 14,65 | 21,05 | 28,90 | 33,90 | 3140,40 | 23,05 | 3,48 | 1,51 | 33,79 | 1,08 | 1,55 | 2,13 |
| 35,4 | 40668,10 | 318,35 | 52,95 | 16,40 | -0,30 | 521,10 | 15,10 | 20,80 | 29,80 | 57,75 | | | | | | | | |
| 35,6 | 42721,20 | 334,10 | 46,40 | 13,90 | 16,80 | 523,40 | 13,95 | 17,00 | 53,60 | 64,95 | 2542,93 | 19,89 | 2,76 | 0,83 | 31,15 | 0,83 | 1,01 | 3,19 |
| 35,8 | 43901,30 | 300,40 | 69,25 | 16,10 | 36,90 | 545,00 | 16,90 | 16,00 | 55,90 | 34,65 | 1189,74 | 8,14 | 1,88 | 0,44 | 14,77 | 0,46 | 0,43 | 1,51 |
| 36,0 | 42809,10 | 328,40 | 52,20 | 13,30 | 26,80 | 610,70 | 17,95 | 23,30 | 65,30 | 54,15 | 1597,35 | 12,25 | 1,95 | 0,50 | 22,79 | 0,67 | 0,87 | 2,44 |

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**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36,2 | 40988,50 | 339,20 | 72,30 | 7,60 | 47,30 | 701,20 | 22,85 | 18,80 | 41,90 | 77,30 | 866,56 | 7,17 | 1,53 | 0,16 | 14,82 | 0,48 | 0,40 | 0,89 |
| 36,4 | 40738,50 | 318,40 | 51,95 | 12,00 | 28,40 | 717,00 | 20,90 | 17,60 | 34,70 | 54,15 | 1434,45 | 11,21 | 1,83 | 0,42 | 25,25 | 0,74 | 0,62 | 1,22 |
| 36,6 | 41211,50 | 334,90 | 58,95 | 21,00 | 43,40 | 702,70 | 17,00 | 29,40 | 55,50 | 46,70 | 949,57 | 7,72 | 1,36 | 0,48 | 16,19 | 0,39 | 0,68 | 1,28 |
| 36,8 | 42275,50 | 340,30 | 52,00 | 13,60 | 9,30 | 684,20 | 21,90 | 20,45 | 18,00 | 52,55 | 4545,75 | 36,59 | 5,59 | 1,46 | 73,57 | 2,35 | 2,20 | 1,94 |
| 37,0 | 41268,50 | 331,95 | 69,55 | 9,90 | 49,10 | 661,60 | 19,70 | 22,60 | 41,90 | 60,80 | 840,50 | 6,76 | 1,42 | 0,20 | 13,47 | 0,40 | 0,46 | 0,85 |
| 37,2 | 41471,50 | 310,80 | 58,35 | 19,20 | 36,80 | 599,90 | 17,25 | 19,10 | 37,80 | 64,85 | 1126,94 | 8,45 | 1,59 | 0,52 | 16,30 | 0,47 | 0,52 | 1,03 |
| 37,4 | 39436,40 | 334,15 | 72,90 | 12,90 | 75,10 | 584,40 | 20,15 | 25,00 | 56,60 | 71,55 | 525,12 | 4,45 | 0,97 | 0,17 | 7,78 | 0,27 | 0,33 | 0,75 |
| 37,6 | 37757,00 | 367,30 | 80,55 | 12,60 | 31,90 | 657,00 | 23,20 | 31,05 | 32,90 | 60,85 | 1183,61 | 11,51 | 2,53 | 0,39 | 20,60 | 0,73 | 0,97 | 1,03 |
| 37,8 | 36151,60 | 352,35 | 60,20 | 23,40 | 23,20 | 776,60 | 21,85 | 19,50 | 55,60 | 74,70 | 1558,26 | 15,19 | 2,59 | 1,01 | 33,47 | 0,94 | 0,84 | 2,40 |
| 38,0 | 34340,00 | 326,00 | 88,70 | 15,00 | 67,80 | 738,00 | 23,80 | 22,25 | 32,80 | 55,00 | 506,49 | 4,81 | 1,31 | 0,22 | 10,88 | 0,35 | 0,33 | 0,48 |
| 38,2 | 34534,10 | 335,70 | 65,50 | 15,70 | 41,10 | 632,80 | 21,45 | 18,50 | 24,50 | 83,55 | 840,25 | 8,17 | 1,59 | 0,38 | 15,40 | 0,52 | 0,45 | 0,60 |
| 38,4 | 36209,70 | 356,15 | 80,85 | 12,80 | 18,80 | 583,60 | 23,20 | 19,85 | 35,70 | 64,95 | 1926,05 | 18,94 | 4,30 | 0,68 | 31,04 | 1,23 | 1,06 | 1,90 |
| 38,6 | 34875,40 | 346,85 | 72,25 | 12,40 | 43,30 | 559,70 | 22,80 | 16,60 | 21,90 | 60,20 | 805,44 | 8,01 | 1,67 | 0,29 | 12,93 | 0,53 | 0,38 | 0,51 |
| 38,8 | 31546,40 | 328,30 | 70,20 | 13,00 | 4,80 | 560,80 | 18,75 | 18,85 | 46,80 | 52,25 | 6572,17 | 68,40 | 14,63 | 2,71 | 116,83 | 3,91 | 3,93 | 9,75 |
| 39,0 | 31875,90 | 317,70 | 55,55 | 7,40 | 58,00 | 598,40 | 22,05 | 19,05 | 43,90 | 62,75 | 549,58 | 5,48 | 0,96 | 0,13 | 10,32 | 0,38 | 0,33 | 0,76 |
| 39,2 | 31878,20 | 315,35 | 55,75 | 10,60 | 27,40 | 579,10 | 16,60 | 18,95 | 51,30 | 48,60 | 1163,44 | 11,51 | 2,03 | 0,39 | 21,14 | 0,61 | 0,69 | 1,87 |
| 39,4 | 35000,40 | 310,40 | 58,35 | 11,40 | 46,10 | 605,90 | 20,90 | 21,05 | 25,50 | 51,65 | 759,23 | 6,73 | 1,27 | 0,25 | 13,14 | 0,45 | 0,46 | 0,55 |
| 39,6 | 34900,00 | 306,40 | 81,50 | 12,80 | 20,80 | 601,50 | 22,85 | 27,90 | 34,50 | 40,45 | 1677,88 | 14,73 | 3,92 | 0,62 | 28,92 | 1,10 | 1,34 | 1,66 |

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**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39,8 | 33716,40 | 327,20 | 71,15 | 7,50 | 43,70 | 569,20 | 19,50 | 27,90 | 24,10 | 67,50 | 771,54 | 7,49 | 1,63 | 0,17 | 13,03 | 0,45 | 0,64 | 0,55 |
| 40,0 | 34335,40 | 334,75 | 74,30 | 12,90 | 39,50 | 575,50 | 17,80 | 19,30 | 25,70 | 72,55 | 869,25 | 8,47 | 1,88 | 0,33 | 14,57 | 0,45 | 0,49 | 0,65 |
| 40,2 | 36502,90 | 332,15 | 40,70 | 21,10 | 39,10 | 595,60 | 22,05 | 14,25 | 23,20 | 59,80 | 933,58 | 8,49 | 1,04 | 0,54 | 15,23 | 0,56 | 0,36 | 0,59 |
| 40,4 | 33931,30 | 332,55 | 74,75 | 12,80 | 15,80 | 567,70 | 24,60 | 16,60 | 18,30 | 54,30 | 2147,55 | 21,05 | 4,73 | 0,81 | 35,93 | 1,56 | 1,05 | 1,16 |
| 40,6 | 35664,60 | 317,60 | 65,45 | 34,00 | 5,80 | 558,60 | 16,05 | 18,00 | 15,30 | 58,05 | 6149,07 | 54,76 | 11,28 | 5,86 | 96,31 | 2,77 | 3,10 | 2,64 |
| 40,8 | 33653,80 | 314,90 | 50,25 | 13,20 | 41,60 | 614,80 | 22,20 | 28,95 | 26,50 | 70,35 | 808,99 | 7,57 | 1,21 | 0,32 | 14,78 | 0,53 | 0,70 | 0,64 |
| 41,0 | 30873,40 | 322,95 | 67,15 | 17,70 | 17,90 | 602,30 | 22,45 | 19,90 | 6,50 | 65,90 | 1724,77 | 18,04 | 3,75 | 0,99 | 33,65 | 1,25 | 1,11 | 0,36 |
| 41,2 | 32996,00 | 364,45 | 87,95 | 12,50 | 34,00 | 608,10 | 21,75 | 25,65 | 31,10 | 59,10 | 970,47 | 10,72 | 2,59 | 0,37 | 17,89 | 0,64 | 0,75 | 0,91 |
| 41,4 | 33407,90 | 377,20 | 71,30 | 6,90 | 33,60 | 624,40 | 21,95 | 23,00 | 61,10 | 72,95 | 994,28 | 11,23 | 2,12 | 0,21 | 18,58 | 0,65 | 0,68 | 1,82 |
| 41,6 | 31315,80 | 314,45 | 58,55 | 9,70 | -11,20 | 605,40 | 19,45 | 24,30 | 37,30 | 50,35 | | | | | | | | |
| 41,8 | 30913,00 | 329,90 | 76,45 | 12,80 | 16,80 | 591,20 | 21,50 | 25,80 | 21,80 | 63,55 | 1840,06 | 19,64 | 4,55 | 0,76 | 35,19 | 1,28 | 1,54 | 1,30 |
| 42,0 | 34067,80 | 340,60 | 74,65 | 8,80 | 35,00 | 605,00 | 21,45 | 28,90 | 3,40 | 75,05 | 973,37 | 9,73 | 2,13 | 0,25 | 17,29 | 0,61 | 0,83 | 0,10 |
| 42,2 | 35410,20 | 358,00 | 48,20 | 24,50 | 35,40 | 672,00 | 22,85 | 21,15 | 17,40 | 78,20 | 1000,29 | 10,11 | 1,36 | 0,69 | 18,98 | 0,65 | 0,60 | 0,49 |
| 42,4 | 36290,00 | 350,90 | 55,50 | 29,70 | 27,00 | 672,60 | 24,05 | 28,60 | 32,70 | 54,30 | 1344,07 | 13,00 | 2,06 | 1,10 | 24,91 | 0,89 | 1,06 | 1,21 |
| 42,6 | 36843,50 | 362,50 | 78,40 | 12,90 | 24,10 | 673,40 | 19,90 | 21,00 | 26,90 | 65,50 | 1528,78 | 15,04 | 3,25 | 0,54 | 27,94 | 0,83 | 0,87 | 1,12 |
| 42,8 | 36691,50 | 342,60 | 84,00 | 13,10 | 59,70 | 671,10 | 18,20 | 21,90 | 17,30 | 58,65 | 614,60 | 5,74 | 1,41 | 0,22 | 11,24 | 0,30 | 0,37 | 0,29 |
| 43,0 | 36339,90 | 353,05 | 63,05 | 20,40 | 57,20 | 678,50 | 18,15 | 21,95 | 19,00 | 61,30 | 635,31 | 6,17 | 1,10 | 0,36 | 11,86 | 0,32 | 0,38 | 0,33 |
| 43,2 | 36019,10 | 344,10 | 57,20 | 19,90 | 47,40 | 691,50 | 18,35 | 25,55 | 27,60 | 77,80 | 759,90 | 7,26 | 1,21 | 0,42 | 14,59 | 0,39 | 0,54 | 0,58 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43,4 | 35992,90 | 362,15 | 71,40 | 13,20 | 41,90 | 684,00 | 22,45 | 19,55 | 7,60 | 60,65 | 859,02 | 8,64 | 1,70 | 0,32 | 16,32 | 0,54 | 0,47 | 0,18 |
| 43,6 | 38197,30 | 358,40 | 76,25 | 34,10 | 52,00 | 706,00 | 26,10 | 24,45 | -3,50 | 67,55 | 734,56 | 6,89 | 1,47 | 0,66 | 13,58 | 0,50 | 0,47 | |
| 43,8 | 37659,40 | 344,45 | 68,45 | 23,00 | 36,40 | 757,00 | 21,55 | 13,10 | 18,90 | 42,35 | 1034,60 | 9,46 | 1,88 | 0,63 | 20,80 | 0,59 | 0,36 | 0,52 |
| 44,0 | 36331,70 | 353,40 | 71,45 | 25,50 | 52,20 | 730,40 | 21,40 | 22,20 | 12,70 | 64,00 | 696,01 | 6,77 | 1,37 | 0,49 | 13,99 | 0,41 | 0,43 | 0,24 |
| 44,2 | 35227,70 | 343,45 | 48,55 | 13,10 | 57,40 | 725,10 | 17,50 | 25,65 | 14,30 | 73,80 | 613,72 | 5,98 | 0,85 | 0,23 | 12,63 | 0,30 | 0,45 | 0,25 |
| 44,4 | 34774,70 | 362,65 | 63,90 | 18,20 | 48,30 | 710,10 | 26,80 | 21,70 | 34,60 | 58,65 | 719,97 | 7,51 | 1,32 | 0,38 | 14,70 | 0,55 | 0,45 | 0,72 |
| 44,6 | 35702,00 | 342,75 | 72,00 | 12,10 | 44,90 | 806,60 | 23,75 | 27,05 | 15,70 | 74,55 | 795,14 | 7,63 | 1,60 | 0,27 | 17,96 | 0,53 | 0,60 | 0,35 |
| 44,8 | 36573,50 | 349,35 | 68,05 | 20,30 | 59,80 | 765,00 | 21,25 | 22,25 | 16,30 | 55,40 | 611,60 | 5,84 | 1,14 | 0,34 | 12,79 | 0,36 | 0,37 | 0,27 |
| 45,0 | 36064,70 | 357,50 | 61,70 | 16,50 | 36,40 | 682,00 | 24,05 | 17,10 | 15,80 | 70,10 | 990,79 | 9,82 | 1,70 | 0,45 | 18,74 | 0,66 | 0,47 | 0,43 |
| 45,2 | 34219,30 | 363,75 | 64,35 | 22,30 | 37,50 | 724,10 | 24,35 | 19,70 | 33,50 | 72,30 | 912,51 | 9,70 | 1,72 | 0,59 | 19,31 | 0,65 | 0,53 | 0,89 |
| 45,4 | 33035,70 | 394,95 | 82,30 | 23,70 | 43,60 | 735,50 | 23,90 | 29,80 | 18,30 | 83,45 | 757,70 | 9,06 | 1,89 | 0,54 | 16,87 | 0,55 | 0,68 | 0,42 |
| 45,6 | 32106,90 | 380,25 | 75,20 | 22,10 | 62,30 | 755,70 | 21,25 | 23,45 | 37,80 | 83,45 | 515,36 | 6,10 | 1,21 | 0,35 | 12,13 | 0,34 | 0,38 | 0,61 |
| 45,8 | 31728,10 | 400,90 | 93,50 | 20,40 | 35,20 | 760,00 | 20,90 | 19,60 | 33,30 | 71,20 | 901,37 | 11,39 | 2,66 | 0,58 | 21,59 | 0,59 | 0,56 | 0,95 |
| 46,0 | 30970,00 | 380,35 | 57,95 | 19,60 | 36,80 | 721,90 | 25,45 | 26,80 | 42,50 | 63,35 | 841,58 | 10,34 | 1,57 | 0,53 | 19,62 | 0,69 | 0,73 | 1,15 |
| 46,2 | 31375,30 | 386,65 | 71,20 | 28,30 | 47,10 | 672,80 | 23,85 | 26,30 | 36,90 | 69,20 | 666,14 | 8,21 | 1,51 | 0,60 | 14,28 | 0,51 | 0,56 | 0,78 |
| 46,4 | 32205,50 | 375,05 | 77,90 | 15,10 | 52,80 | 621,20 | 21,90 | 16,60 | 53,70 | 66,90 | 609,95 | 7,10 | 1,48 | 0,29 | 11,77 | 0,41 | 0,31 | 1,02 |
| 46,6 | 34292,40 | 399,50 | 72,80 | 26,40 | 32,50 | 711,50 | 25,45 | 25,55 | 29,50 | 56,60 | 1055,15 | 12,29 | 2,24 | 0,81 | 21,89 | 0,78 | 0,79 | 0,91 |
| 46,8 | 34229,70 | 349,50 | 74,05 | 22,20 | 31,30 | 773,50 | 18,70 | 19,15 | 32,00 | 74,65 | 1093,60 | 11,17 | 2,37 | 0,71 | 24,71 | 0,60 | 0,61 | 1,02 |

(*continued on next page*)

**Table 4** (*continued*)

| CAV-04 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47,0 | 33590,70 | 352,90 | 74,70 | 22,00 | 35,90 | 769,80 | 18,50 | 18,95 | 15,20 | 74,75 | 935,67 | 9,83 | 2,08 | 0,61 | 21,44 | 0,52 | 0,53 | 0,42 |
| 47,2 | 40106,00 | 394,05 | 81,25 | 34,40 | 50,50 | 794,90 | 23,90 | 23,65 | 22,50 | 71,65 | 794,18 | 7,80 | 1,61 | 0,68 | 15,74 | 0,47 | 0,47 | 0,45 |
| 47,4 | 39925,70 | 396,35 | 97,10 | 20,70 | 49,70 | 802,80 | 22,65 | 22,90 | -4,90 | 79,05 | 803,33 | 7,97 | 1,95 | 0,42 | 16,15 | 0,46 | 0,46 | |
| 47,6 | 40927,40 | 386,50 | 82,00 | 27,70 | 47,90 | 807,70 | 24,40 | 26,70 | 1,80 | 89,60 | 854,43 | 8,07 | 1,71 | 0,58 | 16,86 | 0,51 | 0,56 | 0,04 |
| 47,8 | 42671,30 | 358,10 | 104,95 | 31,10 | 39,00 | 786,40 | 21,70 | 18,50 | 1,10 | 72,20 | 1094,14 | 9,18 | 2,69 | 0,80 | 20,16 | 0,56 | 0,47 | 0,03 |
| 48,0 | 42312,40 | 387,30 | 95,10 | 32,90 | 44,50 | 797,10 | 19,40 | 20,65 | 12,80 | 76,05 | 950,84 | 8,70 | 2,14 | 0,74 | 17,91 | 0,44 | 0,46 | 0,29 |
| 48,2 | 41307,20 | 367,70 | 83,95 | 30,10 | 46,90 | 790,80 | 20,35 | 22,30 | -9,30 | 80,10 | 880,75 | 7,84 | 1,79 | 0,64 | 16,86 | 0,43 | 0,48 | |
| 48,4 | 41585,10 | 395,80 | 77,95 | 21,90 | 55,90 | 801,50 | 22,00 | 14,90 | 11,20 | 78,50 | 743,92 | 7,08 | 1,39 | 0,39 | 14,34 | 0,39 | 0,27 | 0,20 |
| 48,6 | 39774,30 | 370,65 | 85,20 | 33,80 | 44,10 | 795,10 | 22,00 | 26,35 | 22,30 | 74,00 | 901,91 | 8,40 | 1,93 | 0,77 | 18,03 | 0,50 | 0,60 | 0,51 |
| 48,8 | 39573,20 | 385,65 | 90,75 | 29,60 | 44,10 | 779,70 | 22,55 | 28,35 | 21,30 | 67,05 | 897,35 | 8,74 | 2,06 | 0,67 | 17,68 | 0,51 | 0,64 | 0,48 |
| 49,0 | 42674,10 | 349,95 | 102,15 | 31,40 | 13,30 | 753,70 | 22,40 | 19,50 | -8,50 | 38,90 | 3208,58 | 26,31 | 7,68 | 2,36 | 56,67 | 1,68 | 1,47 | |
| 49,2 | 42761,90 | 389,80 | 65,30 | 29,80 | 53,70 | 772,10 | 23,20 | 15,60 | 7,80 | 76,45 | 796,31 | 7,26 | 1,22 | 0,55 | 14,38 | 0,43 | 0,29 | 0,15 |
| 49,4 | 41090,50 | 376,95 | 100,15 | 29,60 | 50,60 | 742,50 | 22,35 | 25,30 | 0,30 | 74,20 | 812,07 | 7,45 | 1,98 | 0,58 | 14,67 | 0,44 | 0,50 | 0,01 |
| 49,6 | 40525,60 | 377,80 | 95,15 | 21,70 | 42,60 | 747,90 | 23,70 | 15,70 | -13,40 | 64,10 | 951,31 | 8,87 | 2,23 | 0,51 | 17,56 | 0,56 | 0,37 | |
| 49,8 | 42647,60 | 369,20 | 96,55 | 34,00 | 37,30 | 776,10 | 23,65 | 18,00 | -32,10 | 61,85 | 1143,37 | 9,90 | 2,59 | 0,91 | 20,81 | 0,63 | 0,48 | |
| 50,0 | 41332,30 | 384,90 | 89,95 | 23,50 | 40,50 | 727,00 | 28,05 | 16,70 | -24,30 | 73,25 | 1020,55 | 9,50 | 2,22 | 0,58 | 17,95 | 0,69 | 0,41 | |
| 50,2 | 39869,20 | 356,65 | 100,75 | 41,00 | 55,40 | 727,80 | 21,15 | 21,00 | -9,90 | 74,30 | 719,66 | 6,44 | 1,82 | 0,74 | 13,14 | 0,38 | 0,38 | |
| 50,4 | 38662,40 | 378,35 | 80,35 | 37,10 | 53,20 | 721,30 | 18,30 | 12,40 | -9,40 | 79,00 | 726,74 | 7,11 | 1,51 | 0,70 | 13,56 | 0,34 | 0,23 | |

**Table 5**
XRF data collected with an Avaatech XRF-CS at ISMAR CNR-Bologna, to estimate the elementary properties of lake sediments and characterize the variations of major elements for core CAV-06. The XRF core scanner results are expressed as peak intensities by counts per seconds (cps). Both elemental concentrations (cps) without normalization and element ratios normalized on Ti are shown.

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0,7 | 15340,70 | 725,80 | 314,35 | 234,30 | 423,30 | 4657,80 | 73,10 | 56,35 | 110,30 | 356,55 | 36,24 | 1,71 | 0,74 | 0,55 | 11,00 | 0,17 | 0,13 | 0,26 |
| 0,9 | 15905,40 | 731,85 | 254,70 | 188,40 | 381,40 | 4153,10 | 72,65 | 51,05 | 106,00 | 271,80 | 41,70 | 1,92 | 0,67 | 0,49 | 10,89 | 0,19 | 0,13 | 0,28 |
| 1,1 | 17212,40 | 716,50 | 179,10 | 90,70 | 190,50 | 2658,80 | 52,85 | 49,95 | 119,10 | 203,40 | 90,35 | 3,76 | 0,94 | 0,48 | 13,96 | 0,28 | 0,26 | 0,63 |
| 1,3 | 16476,20 | 717,80 | 202,10 | 102,10 | 201,60 | 2676,30 | 61,70 | 41,80 | 106,70 | 229,65 | 81,73 | 3,56 | 1,00 | 0,51 | 13,28 | 0,31 | 0,21 | 0,53 |
| 1,5 | 19159,10 | 693,55 | 207,10 | 117,30 | 196,40 | 2713,00 | 59,10 | 58,00 | 135,40 | 224,65 | 97,55 | 3,53 | 1,05 | 0,60 | 13,81 | 0,30 | 0,30 | 0,69 |
| 1,7 | 22358,80 | 689,95 | 193,85 | 152,40 | 204,10 | 2752,50 | 60,25 | 52,50 | 144,10 | 201,60 | 109,55 | 3,38 | 0,95 | 0,75 | 13,49 | 0,30 | 0,26 | 0,71 |
| 1,9 | 25441,50 | 601,80 | 192,10 | 200,90 | 233,80 | 2627,60 | 67,20 | 50,00 | 90,50 | 214,50 | 108,82 | 2,57 | 0,82 | 0,86 | 11,24 | 0,29 | 0,21 | 0,39 |
| 2,1 | 22704,50 | 662,30 | 198,30 | 189,90 | 243,80 | 3009,50 | 75,25 | 50,35 | 101,20 | 243,55 | 93,13 | 2,72 | 0,81 | 0,78 | 12,34 | 0,31 | 0,21 | 0,42 |
| 2,3 | 20069,60 | 721,00 | 236,05 | 165,40 | 294,70 | 3518,10 | 60,40 | 51,75 | 101,70 | 272,15 | 68,10 | 2,45 | 0,80 | 0,56 | 11,94 | 0,20 | 0,18 | 0,35 |
| 2,5 | 22645,20 | 740,30 | 211,35 | 151,40 | 267,80 | 3295,70 | 55,90 | 42,80 | 113,20 | 232,35 | 84,56 | 2,76 | 0,79 | 0,57 | 12,31 | 0,21 | 0,16 | 0,42 |
| 2,7 | 20699,60 | 692,70 | 255,75 | 212,20 | 293,30 | 3880,10 | 63,15 | 52,15 | 109,80 | 290,60 | 70,57 | 2,36 | 0,87 | 0,72 | 13,23 | 0,22 | 0,18 | 0,37 |
| 2,9 | 19434,80 | 712,10 | 231,70 | 143,60 | 302,00 | 3759,90 | 66,50 | 63,65 | 119,70 | 285,20 | 64,35 | 2,36 | 0,77 | 0,48 | 12,45 | 0,22 | 0,21 | 0,40 |
| 3,1 | 19175,70 | 723,00 | 265,90 | 136,40 | 297,70 | 3593,00 | 70,50 | 98,00 | 103,70 | 289,65 | 64,41 | 2,43 | 0,89 | 0,46 | 12,07 | 0,24 | 0,33 | 0,35 |
| 3,3 | 23376,10 | 769,55 | 262,70 | 182,30 | 312,30 | 3796,20 | 65,05 | 51,45 | 129,50 | 278,05 | 74,85 | 2,46 | 0,84 | 0,58 | 12,16 | 0,21 | 0,16 | 0,41 |
| 3,5 | 24493,30 | 781,20 | 211,05 | 197,50 | 278,50 | 3466,80 | 65,45 | 45,70 | 140,20 | 247,80 | 87,95 | 2,81 | 0,76 | 0,71 | 12,45 | 0,24 | 0,16 | 0,50 |
| 3,7 | 19645,00 | 738,50 | 283,60 | 271,20 | 427,00 | 4863,90 | 77,05 | 51,55 | 123,90 | 340,70 | 46,01 | 1,73 | 0,66 | 0,64 | 11,39 | 0,18 | 0,12 | 0,29 |
| 3,9 | 18330,70 | 710,70 | 267,05 | 279,10 | 462,30 | 5133,60 | 75,20 | 53,05 | 120,80 | 376,60 | 39,65 | 1,54 | 0,58 | 0,60 | 11,10 | 0,16 | 0,11 | 0,26 |
| 4,1 | 18263,10 | 764,40 | 285,75 | 208,90 | 367,80 | 4151,70 | 74,30 | 57,00 | 115,10 | 350,65 | 49,65 | 2,08 | 0,78 | 0,57 | 11,29 | 0,20 | 0,15 | 0,31 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,3 | 17188,30 | 737,05 | 308,95 | 242,70 | 419,60 | 4852,00 | 74,35 | 56,25 | 139,00 | 361,25 | 40,96 | 1,76 | 0,74 | 0,58 | 11,56 | 0,18 | 0,13 | 0,33 |
| 4,5 | 20256,40 | 885,00 | 297,30 | 278,20 | 435,70 | 4811,20 | 74,85 | 104,05 | 121,80 | 375,80 | 46,49 | 2,03 | 0,68 | 0,64 | 11,04 | 0,17 | 0,24 | 0,28 |
| 4,7 | 23217,90 | 829,05 | 255,30 | 188,00 | 332,00 | 3896,30 | 66,40 | 116,20 | 121,00 | 302,25 | 69,93 | 2,50 | 0,77 | 0,57 | 11,74 | 0,20 | 0,35 | 0,36 |
| 4,9 | 24081,80 | 725,70 | 214,00 | 145,00 | 260,90 | 3292,80 | 48,60 | 132,30 | 112,20 | 213,05 | 92,30 | 2,78 | 0,82 | 0,56 | 12,62 | 0,19 | 0,51 | 0,43 |
| 5,1 | 16952,40 | 670,40 | 319,80 | 213,30 | 401,10 | 5140,00 | 72,30 | 102,25 | 105,00 | 384,05 | 42,26 | 1,67 | 0,80 | 0,53 | 12,81 | 0,18 | 0,25 | 0,26 |
| 5,3 | 13043,00 | 571,95 | 417,60 | 288,40 | 582,80 | 6832,00 | 83,15 | 61,20 | 108,30 | 478,00 | 22,38 | 0,98 | 0,72 | 0,49 | 11,72 | 0,14 | 0,11 | 0,19 |
| 5,5 | 12424,20 | 556,45 | 377,95 | 292,80 | 582,50 | 6886,40 | 88,50 | 63,75 | 132,60 | 483,85 | 21,33 | 0,96 | 0,65 | 0,50 | 11,82 | 0,15 | 0,11 | 0,23 |
| 5,7 | 12601,30 | 581,20 | 398,60 | 286,70 | 612,20 | 6709,60 | 81,85 | 57,85 | 133,10 | 462,45 | 20,58 | 0,95 | 0,65 | 0,47 | 10,96 | 0,13 | 0,09 | 0,22 |
| 5,9 | 12821,20 | 544,20 | 410,50 | 263,40 | 578,90 | 6913,30 | 86,60 | 62,85 | 133,20 | 501,80 | 22,15 | 0,94 | 0,71 | 0,46 | 11,94 | 0,15 | 0,11 | 0,23 |
| 6,1 | 14471,40 | 570,20 | 340,45 | 231,70 | 506,90 | 6077,90 | 86,00 | 66,70 | 124,70 | 447,90 | 28,55 | 1,12 | 0,67 | 0,46 | 11,99 | 0,17 | 0,13 | 0,25 |
| 6,3 | 16649,20 | 755,15 | 270,25 | 160,50 | 387,70 | 4600,40 | 70,80 | 66,55 | 128,10 | 332,10 | 42,94 | 1,95 | 0,70 | 0,41 | 11,87 | 0,18 | 0,17 | 0,33 |
| 6,5 | 19404,90 | 812,75 | 256,05 | 114,10 | 337,90 | 4207,20 | 75,20 | 54,50 | 125,80 | 343,10 | 57,43 | 2,41 | 0,76 | 0,34 | 12,45 | 0,22 | 0,16 | 0,37 |
| 6,7 | 19968,20 | 789,55 | 241,45 | 79,40 | 238,70 | 3877,90 | 54,60 | 49,50 | 145,90 | 222,40 | 83,65 | 3,31 | 1,01 | 0,33 | 16,25 | 0,23 | 0,21 | 0,61 |
| 6,9 | 17707,90 | 733,90 | 239,35 | 79,20 | 281,10 | 3939,40 | 70,50 | 62,45 | 141,10 | 266,95 | 63,00 | 2,61 | 0,85 | 0,28 | 14,01 | 0,25 | 0,22 | 0,50 |
| 7,1 | 17874,80 | 732,55 | 230,40 | 98,20 | 264,10 | 3539,60 | 61,55 | 57,25 | 131,10 | 269,30 | 67,68 | 2,77 | 0,87 | 0,37 | 13,40 | 0,23 | 0,22 | 0,50 |
| 7,3 | 16548,60 | 675,60 | 239,00 | 65,80 | 216,20 | 3007,80 | 63,50 | 109,80 | 136,10 | 236,55 | 76,54 | 3,12 | 1,11 | 0,30 | 13,91 | 0,29 | 0,51 | 0,63 |
| 7,5 | 16770,20 | 721,15 | 210,50 | 72,50 | 216,50 | 2927,20 | 59,30 | 148,50 | 139,00 | 232,15 | 77,46 | 3,33 | 0,97 | 0,33 | 13,52 | 0,27 | 0,69 | 0,64 |
| 7,7 | 19800,00 | 734,00 | 245,70 | 94,60 | 252,10 | 3105,00 | 62,35 | 51,45 | 129,40 | 220,50 | 78,54 | 2,91 | 0,97 | 0,38 | 12,32 | 0,25 | 0,20 | 0,51 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7,9 | 21534,00 | 736,85 | 210,40 | 112,80 | 288,30 | 3374,50 | 57,10 | 41,95 | 137,20 | 212,20 | 74,69 | 2,56 | 0,73 | 0,39 | 11,70 | 0,20 | 0,15 | 0,48 |
| 8,1 | 22757,80 | 730,80 | 230,65 | 127,60 | 277,50 | 3662,60 | 61,25 | 56,35 | 131,20 | 256,00 | 82,01 | 2,63 | 0,83 | 0,46 | 13,20 | 0,22 | 0,20 | 0,47 |
| 8,3 | 21392,10 | 711,20 | 230,65 | 110,70 | 252,80 | 3432,40 | 63,00 | 55,75 | 136,50 | 232,30 | 84,62 | 2,81 | 0,91 | 0,44 | 13,58 | 0,25 | 0,22 | 0,54 |
| 8,5 | 21066,00 | 699,85 | 236,20 | 90,70 | 277,60 | 3271,60 | 59,05 | 38,65 | 138,90 | 221,00 | 75,89 | 2,52 | 0,85 | 0,33 | 11,79 | 0,21 | 0,14 | 0,50 |
| 8,7 | 21577,10 | 708,10 | 213,35 | 95,10 | 265,10 | 3303,20 | 55,85 | 52,85 | 125,70 | 238,85 | 81,39 | 2,67 | 0,80 | 0,36 | 12,46 | 0,21 | 0,20 | 0,47 |
| 8,9 | 21265,00 | 725,55 | 228,65 | 83,40 | 226,90 | 3298,30 | 60,55 | 41,85 | 134,10 | 226,00 | 93,72 | 3,20 | 1,01 | 0,37 | 14,54 | 0,27 | 0,18 | 0,59 |
| 9,1 | 19944,10 | 684,35 | 207,45 | 84,90 | 257,90 | 3407,00 | 53,90 | 44,45 | 126,60 | 204,80 | 77,33 | 2,65 | 0,80 | 0,33 | 13,21 | 0,21 | 0,17 | 0,49 |
| 9,3 | 19540,70 | 721,40 | 226,40 | 79,70 | 253,10 | 3602,20 | 61,60 | 62,50 | 126,60 | 251,00 | 77,21 | 2,85 | 0,89 | 0,31 | 14,23 | 0,24 | 0,25 | 0,50 |
| 9,5 | 21180,70 | 728,85 | 242,75 | 115,80 | 245,40 | 3454,60 | 62,50 | 56,25 | 128,70 | 249,30 | 86,31 | 2,97 | 0,99 | 0,47 | 14,08 | 0,25 | 0,23 | 0,52 |
| 9,7 | 19221,10 | 723,40 | 260,25 | 107,60 | 228,60 | 3108,20 | 61,10 | 64,55 | 120,50 | 240,70 | 84,08 | 3,16 | 1,14 | 0,47 | 13,60 | 0,27 | 0,28 | 0,53 |
| 9,9 | 19673,30 | 733,95 | 259,15 | 127,90 | 244,50 | 3027,90 | 56,15 | 64,95 | 110,60 | 237,05 | 80,46 | 3,00 | 1,06 | 0,52 | 12,38 | 0,23 | 0,27 | 0,45 |
| 10,1 | 21503,90 | 731,10 | 261,40 | 146,30 | 280,70 | 3336,10 | 61,80 | 51,25 | 116,30 | 229,25 | 76,61 | 2,60 | 0,93 | 0,52 | 11,88 | 0,22 | 0,18 | 0,41 |
| 10,3 | 22958,40 | 684,60 | 238,95 | 155,60 | 303,20 | 3394,70 | 66,15 | 63,30 | 121,80 | 252,55 | 75,72 | 2,26 | 0,79 | 0,51 | 11,20 | 0,22 | 0,21 | 0,40 |
| 10,5 | 23717,40 | 676,10 | 242,25 | 177,20 | 319,80 | 3786,60 | 68,50 | 67,40 | 114,70 | 256,25 | 74,16 | 2,11 | 0,76 | 0,55 | 11,84 | 0,21 | 0,21 | 0,36 |
| 10,7 | 22141,80 | 772,75 | 235,10 | 210,80 | 367,90 | 4478,10 | 72,75 | 61,30 | 111,90 | 343,95 | 60,18 | 2,10 | 0,64 | 0,57 | 12,17 | 0,20 | 0,17 | 0,30 |
| 10,9 | 21764,90 | 748,50 | 253,55 | 225,30 | 384,70 | 4448,00 | 81,50 | 70,75 | 119,00 | 354,20 | 56,58 | 1,95 | 0,66 | 0,59 | 11,56 | 0,21 | 0,18 | 0,31 |
| 11,1 | 21017,90 | 762,15 | 262,95 | 205,70 | 361,50 | 4264,10 | 69,30 | 61,50 | 135,50 | 347,50 | 58,14 | 2,11 | 0,73 | 0,57 | 11,80 | 0,19 | 0,17 | 0,37 |
| 11,3 | 21771,40 | 765,10 | 263,00 | 188,00 | 384,10 | 4272,70 | 68,90 | 55,85 | 135,70 | 325,65 | 56,68 | 1,99 | 0,68 | 0,49 | 11,12 | 0,18 | 0,15 | 0,35 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11,5 | 23325,30 | 760,30 | 241,80 | 171,20 | 301,00 | 3970,70 | 69,55 | 49,00 | 111,40 | 279,40 | 77,49 | 2,53 | 0,80 | 0,57 | 13,19 | 0,23 | 0,16 | 0,37 |
| 11,7 | 24189,00 | 734,40 | 226,95 | 166,30 | 319,10 | 3828,80 | 60,40 | 55,85 | 107,60 | 265,50 | 75,80 | 2,30 | 0,71 | 0,52 | 12,00 | 0,19 | 0,18 | 0,34 |
| 11,9 | 23576,10 | 741,10 | 220,45 | 147,60 | 334,90 | 3808,90 | 61,70 | 47,35 | 118,80 | 258,35 | 70,40 | 2,21 | 0,66 | 0,44 | 11,37 | 0,18 | 0,14 | 0,35 |
| 12,1 | 21301,30 | 765,90 | 273,65 | 121,60 | 291,40 | 3594,40 | 69,30 | 52,25 | 122,50 | 282,25 | 73,10 | 2,63 | 0,94 | 0,42 | 12,33 | 0,24 | 0,18 | 0,42 |
| 12,3 | 17413,50 | 750,50 | 214,65 | 91,30 | 247,40 | 3058,60 | 64,45 | 43,35 | 121,10 | 249,55 | 70,39 | 3,03 | 0,87 | 0,37 | 12,36 | 0,26 | 0,18 | 0,49 |
| 12,5 | 17087,80 | 772,20 | 218,60 | 104,10 | 220,70 | 2981,00 | 67,30 | 50,20 | 104,90 | 252,00 | 77,43 | 3,50 | 0,99 | 0,47 | 13,51 | 0,30 | 0,23 | 0,48 |
| 12,7 | 16310,90 | 774,80 | 202,55 | 90,40 | 226,70 | 3001,30 | 65,70 | 58,20 | 120,10 | 264,95 | 71,95 | 3,42 | 0,89 | 0,40 | 13,24 | 0,29 | 0,26 | 0,53 |
| 12,9 | 19353,70 | 748,85 | 232,85 | 104,40 | 215,50 | 3144,00 | 63,85 | 61,15 | 129,80 | 264,05 | 89,81 | 3,47 | 1,08 | 0,48 | 14,59 | 0,30 | 0,28 | 0,60 |
| 13,1 | 19001,10 | 709,10 | 202,95 | 80,90 | 237,20 | 3163,50 | 69,05 | 59,65 | 103,60 | 241,45 | 80,11 | 2,99 | 0,86 | 0,34 | 13,34 | 0,29 | 0,25 | 0,44 |
| 13,3 | 21497,90 | 668,85 | 266,00 | 94,20 | 219,00 | 3296,10 | 69,00 | 50,65 | 112,60 | 286,55 | 98,16 | 3,05 | 1,21 | 0,43 | 15,05 | 0,32 | 0,23 | 0,51 |
| 13,5 | 25691,70 | 714,05 | 200,10 | 109,90 | 250,60 | 3269,90 | 58,70 | 42,15 | 117,70 | 238,20 | 102,52 | 2,85 | 0,80 | 0,44 | 13,05 | 0,23 | 0,17 | 0,47 |
| 13,7 | 21597,10 | 701,30 | 214,40 | 80,30 | 210,30 | 2895,60 | 54,80 | 41,60 | 111,80 | 215,20 | 102,70 | 3,33 | 1,02 | 0,38 | 13,77 | 0,26 | 0,20 | 0,53 |
| 13,9 | 17669,80 | 697,30 | 190,15 | 58,80 | 170,30 | 2897,50 | 48,75 | 45,30 | 125,80 | 194,55 | 103,76 | 4,09 | 1,12 | 0,35 | 17,01 | 0,29 | 0,27 | 0,74 |
| 14,1 | 14398,00 | 680,15 | 139,85 | 63,60 | 185,30 | 3515,10 | 54,15 | 62,85 | 121,60 | 209,90 | 77,70 | 3,67 | 0,75 | 0,34 | 18,97 | 0,29 | 0,34 | 0,66 |
| 14,3 | 12936,80 | 690,40 | 172,75 | 59,70 | 190,60 | 3016,40 | 52,90 | 62,50 | 133,80 | 203,90 | 67,87 | 3,62 | 0,91 | 0,31 | 15,83 | 0,28 | 0,33 | 0,70 |
| 14,5 | 13158,50 | 733,10 | 177,75 | 54,10 | 200,00 | 3020,80 | 61,95 | 53,20 | 127,90 | 278,80 | 65,79 | 3,67 | 0,89 | 0,27 | 15,10 | 0,31 | 0,27 | 0,64 |
| 14,7 | 13713,20 | 691,95 | 232,60 | 65,90 | 191,10 | 3216,20 | 85,20 | 58,95 | 153,10 | 210,95 | 71,76 | 3,62 | 1,22 | 0,34 | 16,83 | 0,45 | 0,31 | 0,80 |
| 14,9 | 13955,60 | 688,40 | 196,85 | 39,00 | 202,50 | 2913,80 | 85,70 | 61,40 | 144,10 | 223,85 | 68,92 | 3,40 | 0,97 | 0,19 | 14,39 | 0,42 | 0,30 | 0,71 |

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**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15,1 | 16045,90 | 667,35 | 230,40 | 46,00 | 163,40 | 2903,50 | 56,90 | 49,80 | 126,70 | 242,30 | 98,20 | 4,08 | 1,41 | 0,28 | 17,77 | 0,35 | 0,30 | 0,78 |
| 15,3 | 15177,90 | 684,45 | 201,80 | 56,20 | 212,40 | 2796,50 | 60,00 | 56,60 | 144,00 | 228,20 | 71,46 | 3,22 | 0,95 | 0,26 | 13,17 | 0,28 | 0,27 | 0,68 |
| 15,5 | 12510,90 | 722,50 | 183,80 | 47,60 | 173,20 | 2797,90 | 64,70 | 58,55 | 128,10 | 249,60 | 72,23 | 4,17 | 1,06 | 0,27 | 16,15 | 0,37 | 0,34 | 0,74 |
| 15,7 | 13304,00 | 697,75 | 202,25 | 47,90 | 187,70 | 2897,40 | 68,15 | 51,15 | 131,30 | 259,30 | 70,88 | 3,72 | 1,08 | 0,26 | 15,44 | 0,36 | 0,27 | 0,70 |
| 15,9 | 16428,30 | 663,15 | 198,40 | 62,20 | 206,70 | 3172,50 | 69,85 | 55,75 | 137,70 | 240,10 | 79,48 | 3,21 | 0,96 | 0,30 | 15,35 | 0,34 | 0,27 | 0,67 |
| 16,1 | 15267,90 | 689,45 | 233,65 | 68,40 | 211,70 | 3208,90 | 73,50 | 53,20 | 138,80 | 240,20 | 72,12 | 3,26 | 1,10 | 0,32 | 15,16 | 0,35 | 0,25 | 0,66 |
| 16,3 | 15532,90 | 691,20 | 222,05 | 84,20 | 246,70 | 3215,40 | 68,80 | 48,60 | 146,30 | 271,00 | 62,96 | 2,80 | 0,90 | 0,34 | 13,03 | 0,28 | 0,20 | 0,59 |
| 16,5 | 16892,70 | 712,80 | 207,55 | 82,90 | 237,80 | 3193,60 | 74,15 | 60,20 | 138,00 | 260,70 | 71,04 | 3,00 | 0,87 | 0,35 | 13,43 | 0,31 | 0,25 | 0,58 |
| 16,7 | 17581,10 | 715,70 | 225,60 | 59,60 | 230,20 | 3059,20 | 72,10 | 54,55 | 143,00 | 218,45 | 76,37 | 3,11 | 0,98 | 0,26 | 13,29 | 0,31 | 0,24 | 0,62 |
| 16,9 | 20041,60 | 694,25 | 213,50 | 84,90 | 205,70 | 3100,20 | 67,75 | 50,75 | 117,90 | 221,35 | 97,43 | 3,38 | 1,04 | 0,41 | 15,07 | 0,33 | 0,25 | 0,57 |
| 17,1 | 17897,60 | 671,60 | 204,95 | 65,00 | 207,60 | 2919,70 | 56,10 | 43,40 | 135,10 | 202,15 | 86,21 | 3,24 | 0,99 | 0,31 | 14,06 | 0,27 | 0,21 | 0,65 |
| 17,3 | 19711,40 | 668,50 | 206,05 | 76,80 | 256,90 | 3217,30 | 56,75 | 49,00 | 122,50 | 207,85 | 76,73 | 2,60 | 0,80 | 0,30 | 12,52 | 0,22 | 0,19 | 0,48 |
| 17,5 | 18661,90 | 750,25 | 217,05 | 56,40 | 246,70 | 3312,50 | 78,90 | 53,65 | 131,70 | 219,25 | 75,65 | 3,04 | 0,88 | 0,23 | 13,43 | 0,32 | 0,22 | 0,53 |
| 17,7 | 12540,50 | 713,85 | 208,50 | 67,10 | 224,60 | 2882,50 | 71,60 | 60,60 | 145,50 | 229,95 | 55,83 | 3,18 | 0,93 | 0,30 | 12,83 | 0,32 | 0,27 | 0,65 |
| 17,9 | 12019,50 | 665,20 | 222,60 | 72,10 | 190,10 | 3122,90 | 67,80 | 48,10 | 142,30 | 239,45 | 63,23 | 3,50 | 1,17 | 0,38 | 16,43 | 0,36 | 0,25 | 0,75 |
| 18,1 | 14233,20 | 623,65 | 220,60 | 77,60 | 255,10 | 3374,40 | 74,00 | 48,55 | 136,60 | 275,55 | 55,79 | 2,44 | 0,86 | 0,30 | 13,23 | 0,29 | 0,19 | 0,54 |
| 18,3 | 16642,80 | 672,60 | 222,40 | 86,60 | 253,90 | 3539,90 | 69,10 | 47,20 | 115,70 | 308,05 | 65,55 | 2,65 | 0,88 | 0,34 | 13,94 | 0,27 | 0,19 | 0,46 |
| 18,5 | 17307,00 | 673,15 | 246,45 | 90,50 | 287,80 | 3498,40 | 70,85 | 47,05 | 118,70 | 317,45 | 60,14 | 2,34 | 0,86 | 0,31 | 12,16 | 0,25 | 0,16 | 0,41 |

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**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18,7 | 18071,00 | 658,00 | 245,90 | 80,30 | 265,70 | 3537,00 | 64,15 | 43,90 | 129,10 | 255,40 | 68,01 | 2,48 | 0,93 | 0,30 | 13,31 | 0,24 | 0,17 | 0,49 |
| 18,9 | 19376,70 | 672,05 | 227,10 | 103,30 | 291,50 | 3756,40 | 59,30 | 40,05 | 117,30 | 280,00 | 66,47 | 2,31 | 0,78 | 0,35 | 12,89 | 0,20 | 0,14 | 0,40 |
| 19,1 | 20262,90 | 686,10 | 226,10 | 131,60 | 334,50 | 4068,50 | 64,65 | 41,90 | 139,20 | 261,40 | 60,58 | 2,05 | 0,68 | 0,39 | 12,16 | 0,19 | 0,13 | 0,42 |
| 19,3 | 19430,70 | 690,30 | 235,00 | 126,10 | 327,40 | 3927,80 | 61,00 | 50,00 | 133,90 | 289,55 | 59,35 | 2,11 | 0,72 | 0,39 | 12,00 | 0,19 | 0,15 | 0,41 |
| 19,5 | 20106,90 | 709,65 | 232,35 | 94,90 | 306,70 | 3806,20 | 61,95 | 53,40 | 131,20 | 288,70 | 65,56 | 2,31 | 0,76 | 0,31 | 12,41 | 0,20 | 0,17 | 0,43 |
| 19,7 | 13935,60 | 761,10 | 260,35 | 64,00 | 252,90 | 3549,70 | 70,50 | 44,90 | 134,10 | 273,00 | 55,10 | 3,01 | 1,03 | 0,25 | 14,04 | 0,28 | 0,18 | 0,53 |
| 19,9 | 9955,80 | 660,15 | 233,70 | 58,50 | 183,40 | 3127,20 | 66,65 | 54,55 | 144,80 | 301,10 | 54,28 | 3,60 | 1,27 | 0,32 | 17,05 | 0,36 | 0,30 | 0,79 |
| 20,1 | 11731,70 | 678,50 | 232,55 | 40,00 | 213,20 | 3082,30 | 77,70 | 58,65 | 158,90 | 283,05 | 55,03 | 3,18 | 1,09 | 0,19 | 14,46 | 0,36 | 0,28 | 0,75 |
| 20,3 | 13469,10 | 684,75 | 216,55 | 50,30 | 212,60 | 3280,20 | 76,15 | 58,65 | 161,30 | 253,55 | 63,35 | 3,22 | 1,02 | 0,24 | 15,43 | 0,36 | 0,28 | 0,76 |
| 20,5 | 15588,70 | 674,15 | 212,15 | 55,00 | 223,20 | 3279,90 | 72,45 | 58,55 | 175,00 | 248,95 | 69,84 | 3,02 | 0,95 | 0,25 | 14,69 | 0,32 | 0,26 | 0,78 |
| 20,7 | 15976,80 | 679,35 | 228,55 | 52,60 | 244,40 | 3279,90 | 74,95 | 59,90 | 161,30 | 231,65 | 65,37 | 2,78 | 0,94 | 0,22 | 13,42 | 0,31 | 0,25 | 0,66 |
| 20,9 | 16109,10 | 685,80 | 182,05 | 71,40 | 257,60 | 3524,50 | 61,40 | 52,05 | 167,70 | 228,20 | 62,54 | 2,66 | 0,71 | 0,28 | 13,68 | 0,24 | 0,20 | 0,65 |
| 21,1 | 19354,40 | 667,00 | 209,50 | 102,20 | 283,80 | 4523,80 | 65,05 | 54,15 | 166,60 | 225,95 | 68,20 | 2,35 | 0,74 | 0,36 | 15,94 | 0,23 | 0,19 | 0,59 |
| 21,3 | 19215,70 | 681,30 | 214,50 | 123,00 | 256,70 | 4951,30 | 79,25 | 72,30 | 175,80 | 220,60 | 74,86 | 2,65 | 0,84 | 0,48 | 19,29 | 0,31 | 0,28 | 0,68 |
| 21,5 | 17930,10 | 691,95 | 193,65 | 102,80 | 256,50 | 3716,80 | 70,45 | 89,10 | 168,80 | 226,85 | 69,90 | 2,70 | 0,75 | 0,40 | 14,49 | 0,27 | 0,35 | 0,66 |
| 21,7 | 16440,90 | 667,65 | 202,70 | 64,10 | 242,20 | 3553,90 | 77,50 | 76,70 | 170,60 | 224,55 | 67,88 | 2,76 | 0,84 | 0,26 | 14,67 | 0,32 | 0,32 | 0,70 |
| 21,9 | 16443,50 | 687,50 | 214,85 | 44,40 | 256,80 | 3432,80 | 78,90 | 61,30 | 182,60 | 270,85 | 64,03 | 2,68 | 0,84 | 0,17 | 13,37 | 0,31 | 0,24 | 0,71 |
| 22,1 | 17754,90 | 717,10 | 228,35 | 90,70 | 260,60 | 3450,90 | 82,55 | 66,10 | 184,50 | 263,50 | 68,13 | 2,75 | 0,88 | 0,35 | 13,24 | 0,32 | 0,25 | 0,71 |

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**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22,3 | 18189,20 | 691,00 | 206,65 | 83,30 | 261,10 | 3409,20 | 76,55 | 67,30 | 188,00 | 266,80 | 69,66 | 2,65 | 0,79 | 0,32 | 13,06 | 0,29 | 0,26 | 0,72 |
| 22,5 | 17291,40 | 708,10 | 212,65 | 72,80 | 250,70 | 3458,80 | 85,25 | 75,30 | 178,70 | 259,90 | 68,97 | 2,82 | 0,85 | 0,29 | 13,80 | 0,34 | 0,30 | 0,71 |
| 22,7 | 15511,70 | 662,50 | 198,10 | 50,00 | 250,00 | 3483,20 | 77,70 | 67,80 | 177,20 | 238,60 | 62,05 | 2,65 | 0,79 | 0,20 | 13,93 | 0,31 | 0,27 | 0,71 |
| 22,9 | 15733,60 | 683,30 | 227,80 | 66,50 | 231,60 | 3482,80 | 81,00 | 68,35 | 174,30 | 248,90 | 67,93 | 2,95 | 0,98 | 0,29 | 15,04 | 0,35 | 0,30 | 0,75 |
| 23,1 | 16851,50 | 669,05 | 237,40 | 54,40 | 247,70 | 3257,60 | 81,30 | 64,05 | 193,40 | 279,70 | 68,03 | 2,70 | 0,96 | 0,22 | 13,15 | 0,33 | 0,26 | 0,78 |
| 23,3 | 18694,70 | 664,90 | 222,00 | 63,60 | 245,30 | 3339,80 | 75,45 | 65,65 | 199,20 | 282,75 | 76,21 | 2,71 | 0,91 | 0,26 | 13,62 | 0,31 | 0,27 | 0,81 |
| 23,5 | 19319,30 | 690,70 | 205,15 | 99,00 | 255,40 | 3427,90 | 74,40 | 64,55 | 183,70 | 266,55 | 75,64 | 2,70 | 0,80 | 0,39 | 13,42 | 0,29 | 0,25 | 0,72 |
| 23,7 | 19882,40 | 692,00 | 229,85 | 106,40 | 293,10 | 3365,70 | 75,70 | 59,00 | 178,40 | 249,65 | 67,83 | 2,36 | 0,78 | 0,36 | 11,48 | 0,26 | 0,20 | 0,61 |
| 23,9 | 20039,70 | 646,40 | 194,25 | 120,40 | 277,30 | 3361,50 | 72,95 | 63,20 | 172,30 | 228,65 | 72,27 | 2,33 | 0,70 | 0,43 | 12,12 | 0,26 | 0,23 | 0,62 |
| 24,1 | 18882,00 | 681,70 | 226,50 | 77,30 | 234,60 | 3276,70 | 81,70 | 59,90 | 173,20 | 267,70 | 80,49 | 2,91 | 0,97 | 0,33 | 13,97 | 0,35 | 0,26 | 0,74 |
| 24,3 | 20392,50 | 712,30 | 211,20 | 86,10 | 283,20 | 3361,10 | 86,60 | 66,35 | 172,00 | 248,60 | 72,01 | 2,52 | 0,75 | 0,30 | 11,87 | 0,31 | 0,23 | 0,61 |
| 24,5 | 21889,50 | 660,30 | 247,55 | 128,60 | 308,90 | 3596,00 | 86,90 | 59,10 | 175,30 | 235,65 | 70,86 | 2,14 | 0,80 | 0,42 | 11,64 | 0,28 | 0,19 | 0,57 |
| 24,7 | 22227,60 | 694,05 | 217,40 | 157,40 | 316,60 | 3555,60 | 85,50 | 66,60 | 167,40 | 261,60 | 70,21 | 2,19 | 0,69 | 0,50 | 11,23 | 0,27 | 0,21 | 0,53 |
| 24,9 | 19760,70 | 683,75 | 203,25 | 109,90 | 245,70 | 3277,80 | 78,40 | 56,65 | 196,50 | 229,85 | 80,43 | 2,78 | 0,83 | 0,45 | 13,34 | 0,32 | 0,23 | 0,80 |
| 25,1 | 13496,90 | 706,10 | 225,50 | 55,20 | 197,50 | 2861,00 | 89,75 | 69,70 | 197,10 | 266,10 | 68,34 | 3,58 | 1,14 | 0,28 | 14,49 | 0,45 | 0,35 | 1,00 |
| 25,3 | 11767,30 | 707,50 | 255,45 | 36,90 | 193,00 | 2888,10 | 76,30 | 70,45 | 213,40 | 258,25 | 60,97 | 3,67 | 1,32 | 0,19 | 14,96 | 0,40 | 0,37 | 1,11 |
| 25,5 | 10807,70 | 724,95 | 205,35 | 36,90 | 185,00 | 3110,20 | 76,30 | 63,20 | 195,30 | 283,35 | 58,42 | 3,92 | 1,11 | 0,20 | 16,81 | 0,41 | 0,34 | 1,06 |
| 25,7 | 9711,20 | 672,10 | 251,60 | 22,50 | 174,60 | 3115,30 | 87,55 | 60,45 | 200,90 | 301,35 | 55,62 | 3,85 | 1,44 | 0,13 | 17,84 | 0,50 | 0,35 | 1,15 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25,9 | 10707,00 | 667,45 | 252,10 | 44,70 | 205,70 | 2924,00 | 79,65 | 53,15 | 198,90 | 270,55 | 52,05 | 3,24 | 1,23 | 0,22 | 14,21 | 0,39 | 0,26 | 0,97 |
| 26,1 | 12469,60 | 712,80 | 236,20 | 37,90 | 197,60 | 2929,70 | 84,05 | 61,40 | 177,50 | 264,70 | 63,11 | 3,61 | 1,20 | 0,19 | 14,83 | 0,43 | 0,31 | 0,90 |
| 26,3 | 13793,00 | 756,50 | 221,65 | 36,60 | 181,70 | 2828,70 | 74,45 | 56,00 | 187,90 | 271,95 | 75,91 | 4,16 | 1,22 | 0,20 | 15,57 | 0,41 | 0,31 | 1,03 |
| 26,5 | 14095,30 | 728,30 | 252,15 | 44,90 | 164,70 | 2909,10 | 70,50 | 54,15 | 216,20 | 230,90 | 85,58 | 4,42 | 1,53 | 0,27 | 17,66 | 0,43 | 0,33 | 1,31 |
| 26,7 | 12366,40 | 737,00 | 194,60 | 49,20 | 160,70 | 3172,50 | 64,95 | 45,45 | 200,00 | 213,85 | 76,95 | 4,59 | 1,21 | 0,31 | 19,74 | 0,40 | 0,28 | 1,24 |
| 26,9 | 9010,50 | 680,70 | 217,90 | 33,40 | 152,10 | 2916,30 | 65,75 | 48,35 | 195,90 | 240,45 | 59,24 | 4,48 | 1,43 | 0,22 | 19,17 | 0,43 | 0,32 | 1,29 |
| 27,1 | 7904,30 | 670,60 | 213,55 | 36,60 | 137,00 | 2688,70 | 60,85 | 42,20 | 208,90 | 231,20 | 57,70 | 4,89 | 1,56 | 0,27 | 19,63 | 0,44 | 0,31 | 1,52 |
| 27,3 | 9109,70 | 641,10 | 200,55 | 43,50 | 150,50 | 2828,60 | 64,95 | 45,05 | 215,00 | 272,60 | 60,53 | 4,26 | 1,33 | 0,29 | 18,79 | 0,43 | 0,30 | 1,43 |
| 27,5 | 10143,60 | 658,15 | 207,05 | 50,50 | 193,60 | 2931,60 | 62,60 | 51,55 | 205,60 | 260,65 | 52,39 | 3,40 | 1,07 | 0,26 | 15,14 | 0,32 | 0,27 | 1,06 |
| 27,7 | 10088,10 | 693,30 | 192,85 | 45,60 | 135,40 | 2805,30 | 70,90 | 60,85 | 208,80 | 269,75 | 74,51 | 5,12 | 1,42 | 0,34 | 20,72 | 0,52 | 0,45 | 1,54 |
| 27,9 | 11091,60 | 698,25 | 225,50 | 49,50 | 173,60 | 2765,30 | 89,20 | 72,65 | 200,60 | 247,10 | 63,89 | 4,02 | 1,30 | 0,29 | 15,93 | 0,51 | 0,42 | 1,16 |
| 28,1 | 13057,10 | 666,25 | 217,50 | 43,50 | 206,40 | 3098,60 | 90,20 | 65,35 | 185,60 | 233,80 | 63,26 | 3,23 | 1,05 | 0,21 | 15,01 | 0,44 | 0,32 | 0,90 |
| 28,3 | 14464,40 | 634,70 | 205,65 | 59,00 | 213,70 | 3346,30 | 81,55 | 64,90 | 182,50 | 233,20 | 67,69 | 2,97 | 0,96 | 0,28 | 15,66 | 0,38 | 0,30 | 0,85 |
| 28,5 | 15545,80 | 652,70 | 217,65 | 58,30 | 223,10 | 3631,00 | 76,25 | 47,75 | 194,90 | 229,55 | 69,68 | 2,93 | 0,98 | 0,26 | 16,28 | 0,34 | 0,21 | 0,87 |
| 28,7 | 16709,90 | 659,80 | 249,05 | 65,40 | 212,00 | 3493,00 | 81,85 | 56,55 | 196,40 | 225,10 | 78,82 | 3,11 | 1,17 | 0,31 | 16,48 | 0,39 | 0,27 | 0,93 |
| 28,9 | 18025,20 | 648,60 | 237,75 | 64,50 | 236,20 | 3439,60 | 68,45 | 52,85 | 194,90 | 237,45 | 76,31 | 2,75 | 1,01 | 0,27 | 14,56 | 0,29 | 0,22 | 0,83 |
| 29,1 | 16596,90 | 678,40 | 208,35 | 63,40 | 228,50 | 3416,80 | 64,10 | 48,30 | 182,80 | 252,80 | 72,63 | 2,97 | 0,91 | 0,28 | 14,95 | 0,28 | 0,21 | 0,80 |
| 29,3 | 15108,20 | 695,20 | 206,85 | 57,00 | 243,50 | 3539,50 | 65,85 | 56,90 | 178,00 | 237,15 | 62,05 | 2,86 | 0,85 | 0,23 | 14,54 | 0,27 | 0,23 | 0,73 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29,5 | 14097,40 | 719,35 | 236,20 | 65,30 | 233,10 | 3570,30 | 67,10 | 58,20 | 182,20 | 256,95 | 60,48 | 3,09 | 1,01 | 0,28 | 15,32 | 0,29 | 0,25 | 0,78 |
| 29,7 | 15572,40 | 741,30 | 282,20 | 82,00 | 272,80 | 3688,30 | 70,75 | 63,35 | 232,40 | 277,55 | 57,08 | 2,72 | 1,03 | 0,30 | 13,52 | 0,26 | 0,23 | 0,85 |
| 29,9 | 14951,90 | 736,95 | 242,25 | 66,90 | 237,00 | 4937,80 | 65,80 | 54,80 | 273,60 | 282,00 | 63,09 | 3,11 | 1,02 | 0,28 | 20,83 | 0,28 | 0,23 | 1,15 |
| 30,1 | 16291,20 | 690,75 | 232,35 | 92,50 | 264,70 | 3723,70 | 64,10 | 60,05 | 191,50 | 253,90 | 61,55 | 2,61 | 0,88 | 0,35 | 14,07 | 0,24 | 0,23 | 0,72 |
| 30,3 | 16491,50 | 705,50 | 240,30 | 81,30 | 288,50 | 3477,40 | 60,75 | 56,35 | 192,80 | 275,50 | 57,16 | 2,45 | 0,83 | 0,28 | 12,05 | 0,21 | 0,20 | 0,67 |
| 30,5 | 18433,30 | 739,60 | 276,90 | 109,50 | 316,80 | 3737,90 | 65,65 | 57,65 | 171,30 | 309,50 | 58,19 | 2,33 | 0,87 | 0,35 | 11,80 | 0,21 | 0,18 | 0,54 |
| 30,7 | 19873,90 | 760,55 | 306,10 | 132,80 | 332,70 | 3866,20 | 65,75 | 47,05 | 205,00 | 330,45 | 59,74 | 2,29 | 0,92 | 0,40 | 11,62 | 0,20 | 0,14 | 0,62 |
| 30,9 | 20014,40 | 783,00 | 262,85 | 139,20 | 360,50 | 3805,50 | 73,15 | 54,80 | 188,60 | 332,15 | 55,52 | 2,17 | 0,73 | 0,39 | 10,56 | 0,20 | 0,15 | 0,52 |
| 31,1 | 18601,70 | 784,20 | 241,40 | 129,00 | 342,40 | 3553,60 | 73,30 | 43,85 | 174,10 | 331,55 | 54,33 | 2,29 | 0,71 | 0,38 | 10,38 | 0,21 | 0,13 | 0,51 |
| 31,3 | 16534,30 | 797,25 | 247,35 | 95,90 | 298,60 | 3600,20 | 72,50 | 56,40 | 172,90 | 338,15 | 55,37 | 2,67 | 0,83 | 0,32 | 12,06 | 0,24 | 0,19 | 0,58 |
| 31,5 | 15150,20 | 768,45 | 253,60 | 93,60 | 301,40 | 3219,60 | 67,55 | 49,35 | 170,60 | 299,60 | 50,27 | 2,55 | 0,84 | 0,31 | 10,68 | 0,22 | 0,16 | 0,57 |
| 31,7 | 16531,70 | 757,55 | 297,55 | 100,50 | 279,70 | 3214,40 | 67,20 | 52,25 | 165,20 | 290,80 | 59,11 | 2,71 | 1,06 | 0,36 | 11,49 | 0,24 | 0,19 | 0,59 |
| 31,9 | 19048,90 | 741,80 | 263,80 | 105,80 | 286,30 | 3266,40 | 64,00 | 50,95 | 173,80 | 262,60 | 66,53 | 2,59 | 0,92 | 0,37 | 11,41 | 0,22 | 0,18 | 0,61 |
| 32,1 | 18522,20 | 792,75 | 293,40 | 83,60 | 286,10 | 3057,80 | 61,60 | 48,90 | 168,20 | 275,65 | 64,74 | 2,77 | 1,03 | 0,29 | 10,69 | 0,22 | 0,17 | 0,59 |
| 32,3 | 17932,50 | 779,70 | 295,65 | 53,10 | 235,20 | 2933,90 | 69,70 | 55,95 | 155,10 | 278,50 | 76,24 | 3,32 | 1,26 | 0,23 | 12,47 | 0,30 | 0,24 | 0,66 |
| 32,5 | 17927,20 | 724,15 | 245,75 | 73,20 | 244,00 | 3101,00 | 79,00 | 52,10 | 161,60 | 218,70 | 73,47 | 2,97 | 1,01 | 0,30 | 12,71 | 0,32 | 0,21 | 0,66 |
| 32,7 | 18470,50 | 723,90 | 225,25 | 72,10 | 216,90 | 3005,90 | 75,80 | 56,90 | 166,60 | 228,75 | 85,16 | 3,34 | 1,04 | 0,33 | 13,86 | 0,35 | 0,26 | 0,77 |
| 32,9 | 18223,60 | 734,45 | 219,05 | 61,30 | 252,70 | 2949,80 | 75,60 | 57,55 | 158,70 | 226,90 | 72,12 | 2,91 | 0,87 | 0,24 | 11,67 | 0,30 | 0,23 | 0,63 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33,1 | 19442,80 | 773,10 | 242,60 | 70,00 | 227,40 | 2956,50 | 76,25 | 58,60 | 160,10 | 242,30 | 85,50 | 3,40 | 1,07 | 0,31 | 13,00 | 0,34 | 0,26 | 0,70 |
| 33,3 | 20985,30 | 730,55 | 220,60 | 65,00 | 254,20 | 3058,40 | 79,10 | 59,00 | 174,60 | 210,90 | 82,55 | 2,87 | 0,87 | 0,26 | 12,03 | 0,31 | 0,23 | 0,69 |
| 33,5 | 21131,90 | 694,40 | 196,15 | 81,80 | 254,30 | 3210,40 | 72,65 | 54,90 | 172,50 | 225,30 | 83,10 | 2,73 | 0,77 | 0,32 | 12,62 | 0,29 | 0,22 | 0,68 |
| 33,7 | 21219,70 | 735,60 | 259,85 | 87,00 | 268,00 | 3275,90 | 80,15 | 59,85 | 163,00 | 241,30 | 79,18 | 2,74 | 0,97 | 0,32 | 12,22 | 0,30 | 0,22 | 0,61 |
| 33,9 | 21406,30 | 742,25 | 255,00 | 93,30 | 243,90 | 3291,10 | 66,30 | 61,20 | 156,30 | 236,95 | 87,77 | 3,04 | 1,05 | 0,38 | 13,49 | 0,27 | 0,25 | 0,64 |
| 34,1 | 22726,20 | 711,35 | 250,10 | 110,70 | 278,90 | 3204,10 | 81,55 | 57,90 | 172,90 | 227,40 | 81,49 | 2,55 | 0,90 | 0,40 | 11,49 | 0,29 | 0,21 | 0,62 |
| 34,3 | 23737,30 | 725,90 | 229,30 | 101,80 | 242,60 | 3189,30 | 74,65 | 47,05 | 167,80 | 222,10 | 97,85 | 2,99 | 0,95 | 0,42 | 13,15 | 0,31 | 0,19 | 0,69 |
| 34,5 | 20807,90 | 734,75 | 217,40 | 91,90 | 252,90 | 2967,70 | 67,45 | 49,00 | 144,10 | 224,60 | 82,28 | 2,91 | 0,86 | 0,36 | 11,73 | 0,27 | 0,19 | 0,57 |
| 34,7 | 19219,90 | 806,95 | 235,15 | 63,90 | 199,70 | 2689,00 | 58,50 | 46,10 | 170,40 | 217,90 | 96,24 | 4,04 | 1,18 | 0,32 | 13,47 | 0,29 | 0,23 | 0,85 |
| 34,9 | 21025,20 | 762,85 | 219,35 | 111,90 | 234,10 | 2829,30 | 58,95 | 36,20 | 171,10 | 188,50 | 89,81 | 3,26 | 0,94 | 0,48 | 12,09 | 0,25 | 0,15 | 0,73 |
| 35,1 | 26123,80 | 771,00 | 217,90 | 189,00 | 297,60 | 3273,80 | 65,75 | 40,35 | 150,30 | 213,70 | 87,78 | 2,59 | 0,73 | 0,64 | 11,00 | 0,22 | 0,14 | 0,51 |
| 35,3 | 23957,60 | 747,80 | 216,05 | 144,20 | 279,90 | 3295,80 | 68,85 | 37,15 | 162,80 | 214,85 | 85,59 | 2,67 | 0,77 | 0,52 | 11,77 | 0,25 | 0,13 | 0,58 |
| 37,7 | 23645,50 | 660,20 | 196,30 | 151,90 | 265,50 | 3113,20 | 87,75 | 55,00 | 140,90 | 224,15 | 89,06 | 2,49 | 0,74 | 0,57 | 11,73 | 0,33 | 0,21 | 0,53 |
| 37,9 | 23839,30 | 676,05 | 202,50 | 163,50 | 262,60 | 3221,70 | 88,65 | 67,05 | 138,80 | 214,90 | 90,78 | 2,57 | 0,77 | 0,62 | 12,27 | 0,34 | 0,26 | 0,53 |
| 38,1 | 23892,10 | 676,70 | 202,85 | 149,90 | 292,10 | 3275,80 | 83,60 | 57,05 | 148,10 | 234,95 | 81,79 | 2,32 | 0,69 | 0,51 | 11,21 | 0,29 | 0,20 | 0,51 |
| 38,3 | 22549,10 | 706,20 | 206,85 | 125,30 | 309,00 | 3261,60 | 80,05 | 51,25 | 155,90 | 240,60 | 72,97 | 2,29 | 0,67 | 0,41 | 10,56 | 0,26 | 0,17 | 0,50 |
| 38,5 | 23342,10 | 704,90 | 200,75 | 137,10 | 296,20 | 3532,10 | 86,45 | 64,50 | 160,50 | 242,90 | 78,81 | 2,38 | 0,68 | 0,46 | 11,92 | 0,29 | 0,22 | 0,54 |
| 38,7 | 20876,50 | 701,85 | 243,85 | 102,20 | 300,40 | 3751,10 | 86,85 | 63,00 | 183,80 | 278,70 | 69,50 | 2,34 | 0,81 | 0,34 | 12,49 | 0,29 | 0,21 | 0,61 |

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**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38,9 | 19997,80 | 662,80 | 214,10 | 112,10 | 237,50 | 3636,10 | 77,70 | 63,85 | 165,00 | 242,60 | 84,20 | 2,79 | 0,90 | 0,47 | 15,31 | 0,33 | 0,27 | 0,69 |
| 39,1 | 20790,80 | 662,55 | 225,35 | 105,10 | 258,90 | 3788,80 | 82,75 | 65,65 | 160,30 | 233,75 | 80,30 | 2,56 | 0,87 | 0,41 | 14,63 | 0,32 | 0,25 | 0,62 |
| 39,3 | 21459,80 | 689,75 | 226,40 | 98,90 | 246,00 | 3471,00 | 74,30 | 60,75 | 180,20 | 234,60 | 87,23 | 2,80 | 0,92 | 0,40 | 14,11 | 0,30 | 0,25 | 0,73 |
| 39,5 | 22062,10 | 653,50 | 240,65 | 120,00 | 251,80 | 3511,10 | 76,30 | 63,75 | 170,30 | 223,35 | 87,62 | 2,60 | 0,96 | 0,48 | 13,94 | 0,30 | 0,25 | 0,68 |
| 39,7 | 23969,20 | 669,45 | 235,95 | 140,00 | 257,20 | 3320,60 | 81,05 | 68,65 | 174,00 | 229,75 | 93,19 | 2,60 | 0,92 | 0,54 | 12,91 | 0,32 | 0,27 | 0,68 |
| 39,9 | 19252,00 | 629,95 | 193,55 | 61,70 | 175,10 | 2165,40 | 69,15 | 49,65 | 157,20 | 182,75 | 109,95 | 3,60 | 1,11 | 0,35 | 12,37 | 0,39 | 0,28 | 0,90 |
| 40,1 | 14123,60 | 487,80 | 123,25 | 50,90 | 63,70 | 998,70 | 39,00 | 36,75 | 139,40 | 122,35 | 221,72 | 7,66 | 1,93 | 0,80 | 15,68 | 0,61 | 0,58 | 2,19 |
| 40,3 | 17130,10 | 417,05 | 64,75 | 61,60 | 71,10 | 1003,90 | 26,80 | 24,60 | 140,30 | 86,90 | 240,93 | 5,87 | 0,91 | 0,87 | 14,12 | 0,38 | 0,35 | 1,97 |
| 40,5 | 13104,70 | 419,70 | 66,35 | 64,70 | 117,10 | 1516,60 | 30,70 | 37,65 | 161,70 | 87,90 | 111,91 | 3,58 | 0,57 | 0,55 | 12,95 | 0,26 | 0,32 | 1,38 |
| 40,7 | 10691,30 | 444,20 | 109,60 | 50,50 | 119,40 | 1858,40 | 46,60 | 34,95 | 158,20 | 94,50 | 89,54 | 3,72 | 0,92 | 0,42 | 15,56 | 0,39 | 0,29 | 1,32 |
| 40,9 | 16139,80 | 509,45 | 134,00 | 75,40 | 177,90 | 2509,80 | 64,90 | 51,40 | 184,30 | 164,10 | 90,72 | 2,86 | 0,75 | 0,42 | 14,11 | 0,36 | 0,29 | 1,04 |
| 41,1 | 18918,30 | 586,80 | 202,20 | 112,70 | 274,60 | 3049,60 | 80,75 | 59,45 | 171,10 | 213,90 | 68,89 | 2,14 | 0,74 | 0,41 | 11,11 | 0,29 | 0,22 | 0,62 |
| 41,3 | 21486,80 | 635,75 | 243,45 | 148,00 | 269,80 | 3127,90 | 89,80 | 65,85 | 186,90 | 231,30 | 79,64 | 2,36 | 0,90 | 0,55 | 11,59 | 0,33 | 0,24 | 0,69 |
| 41,5 | 22147,60 | 630,35 | 232,00 | 156,20 | 293,20 | 2966,00 | 85,30 | 60,65 | 156,60 | 241,10 | 75,54 | 2,15 | 0,79 | 0,53 | 10,12 | 0,29 | 0,21 | 0,53 |
| 41,7 | 21741,90 | 599,35 | 256,20 | 136,90 | 270,60 | 2900,20 | 83,10 | 55,65 | 153,40 | 212,95 | 80,35 | 2,21 | 0,95 | 0,51 | 10,72 | 0,31 | 0,21 | 0,57 |
| 41,9 | 16524,20 | 620,50 | 249,80 | 73,40 | 230,50 | 2723,10 | 80,70 | 61,20 | 149,60 | 232,85 | 71,69 | 2,69 | 1,08 | 0,32 | 11,81 | 0,35 | 0,27 | 0,65 |
| 42,1 | 13525,80 | 654,65 | 251,05 | 62,00 | 193,50 | 2618,00 | 79,00 | 56,60 | 145,10 | 222,75 | 69,90 | 3,38 | 1,30 | 0,32 | 13,53 | 0,41 | 0,29 | 0,75 |
| 42,3 | 20259,20 | 656,60 | 241,10 | 140,90 | 254,50 | 3049,90 | 74,90 | 44,50 | 160,80 | 203,95 | 79,60 | 2,58 | 0,95 | 0,55 | 11,98 | 0,29 | 0,17 | 0,63 |

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**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42,5 | 23087,20 | 694,65 | 235,30 | 125,80 | 279,80 | 3260,90 | 77,40 | 45,05 | 140,40 | 234,85 | 82,51 | 2,48 | 0,84 | 0,45 | 11,65 | 0,28 | 0,16 | 0,50 |
| 42,7 | 18791,10 | 656,90 | 266,10 | 75,30 | 228,60 | 3106,00 | 71,05 | 45,25 | 141,40 | 237,15 | 82,20 | 2,87 | 1,16 | 0,33 | 13,59 | 0,31 | 0,20 | 0,62 |
| 42,9 | 11063,10 | 613,75 | 244,35 | 42,00 | 150,40 | 2406,60 | 64,15 | 51,80 | 143,80 | 207,80 | 73,56 | 4,08 | 1,62 | 0,28 | 16,00 | 0,43 | 0,34 | 0,96 |
| 43,1 | 10195,70 | 628,45 | 231,90 | 51,30 | 146,10 | 2348,70 | 77,25 | 55,90 | 157,60 | 221,10 | 69,79 | 4,30 | 1,59 | 0,35 | 16,08 | 0,53 | 0,38 | 1,08 |
| 43,3 | 17784,10 | 583,20 | 240,45 | 81,40 | 211,80 | 3005,80 | 69,45 | 52,40 | 148,10 | 206,75 | 83,97 | 2,75 | 1,14 | 0,38 | 14,19 | 0,33 | 0,25 | 0,70 |
| 43,5 | 17874,20 | 627,20 | 222,15 | 72,40 | 229,60 | 3105,80 | 71,10 | 47,40 | 151,90 | 211,05 | 77,85 | 2,73 | 0,97 | 0,32 | 13,53 | 0,31 | 0,21 | 0,66 |
| 43,7 | 18418,20 | 620,20 | 260,40 | 94,60 | 223,10 | 3071,80 | 80,80 | 66,20 | 134,70 | 220,05 | 82,56 | 2,78 | 1,17 | 0,42 | 13,77 | 0,36 | 0,30 | 0,60 |
| 43,9 | 14977,70 | 630,50 | 248,50 | 98,20 | 269,20 | 3129,80 | 89,95 | 59,10 | 165,10 | 227,15 | 55,64 | 2,34 | 0,92 | 0,36 | 11,63 | 0,33 | 0,22 | 0,61 |
| 44,1 | 13244,20 | 604,65 | 280,65 | 85,30 | 200,10 | 3025,00 | 92,10 | 80,65 | 161,70 | 212,95 | 66,19 | 3,02 | 1,40 | 0,43 | 15,12 | 0,46 | 0,40 | 0,81 |
| 44,3 | 11595,60 | 605,60 | 217,05 | 67,80 | 152,30 | 2473,50 | 89,10 | 62,85 | 154,60 | 209,85 | 76,14 | 3,98 | 1,43 | 0,45 | 16,24 | 0,59 | 0,41 | 1,02 |
| 44,5 | 12939,70 | 583,50 | 220,20 | 87,40 | 189,70 | 2435,10 | 83,80 | 58,00 | 148,40 | 206,75 | 68,21 | 3,08 | 1,16 | 0,46 | 12,84 | 0,44 | 0,31 | 0,78 |
| 44,7 | 12463,00 | 635,70 | 222,05 | 76,80 | 173,20 | 2483,30 | 86,05 | 64,70 | 152,40 | 230,10 | 71,96 | 3,67 | 1,28 | 0,44 | 14,34 | 0,50 | 0,37 | 0,88 |
| 44,9 | 7995,10 | 643,05 | 227,75 | 61,00 | 130,30 | 2102,00 | 74,80 | 51,70 | 146,50 | 219,65 | 61,36 | 4,94 | 1,75 | 0,47 | 16,13 | 0,57 | 0,40 | 1,12 |
| 45,1 | 7709,10 | 676,00 | 234,80 | 39,40 | 144,30 | 2052,50 | 80,70 | 57,35 | 119,30 | 240,20 | 53,42 | 4,68 | 1,63 | 0,27 | 14,22 | 0,56 | 0,40 | 0,83 |
| 45,3 | 6699,30 | 647,45 | 232,60 | 39,60 | 127,30 | 2060,30 | 84,10 | 54,40 | 136,40 | 236,55 | 52,63 | 5,09 | 1,83 | 0,31 | 16,18 | 0,66 | 0,43 | 1,07 |
| 45,5 | 7515,10 | 657,65 | 228,25 | 32,10 | 110,80 | 2038,70 | 70,50 | 52,65 | 136,50 | 222,00 | 67,83 | 5,94 | 2,06 | 0,29 | 18,40 | 0,64 | 0,48 | 1,23 |
| 45,7 | 7341,30 | 681,65 | 236,65 | 44,00 | 92,90 | 2028,70 | 65,00 | 51,65 | 146,40 | 226,35 | 79,02 | 7,34 | 2,55 | 0,47 | 21,84 | 0,70 | 0,56 | 1,58 |
| 45,9 | 9227,00 | 643,30 | 204,10 | 56,90 | 118,60 | 2233,40 | 61,70 | 52,30 | 129,90 | 218,10 | 77,80 | 5,42 | 1,72 | 0,48 | 18,83 | 0,52 | 0,44 | 1,10 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46,1 | 10950,70 | 625,90 | 196,20 | 48,80 | 121,60 | 2417,80 | 55,70 | 45,00 | 149,00 | 204,75 | 90,06 | 5,15 | 1,61 | 0,40 | 19,88 | 0,46 | 0,37 | 1,23 |
| 46,3 | 10827,60 | 641,70 | 208,75 | 62,00 | 152,00 | 2348,10 | 61,35 | 47,55 | 133,20 | 217,70 | 71,23 | 4,22 | 1,37 | 0,41 | 15,45 | 0,40 | 0,31 | 0,88 |
| 46,5 | 6524,50 | 627,45 | 222,65 | 52,50 | 106,30 | 2004,80 | 63,05 | 48,80 | 131,50 | 211,85 | 61,38 | 5,90 | 2,09 | 0,49 | 18,86 | 0,59 | 0,46 | 1,24 |
| 46,7 | 8674,70 | 607,35 | 222,10 | 51,30 | 156,10 | 2255,80 | 65,25 | 49,60 | 126,20 | 201,60 | 55,57 | 3,89 | 1,42 | 0,33 | 14,45 | 0,42 | 0,32 | 0,81 |
| 46,9 | 12054,70 | 614,60 | 216,50 | 69,90 | 169,00 | 2464,20 | 75,75 | 57,35 | 155,50 | 206,00 | 71,33 | 3,64 | 1,28 | 0,41 | 14,58 | 0,45 | 0,34 | 0,92 |
| 47,1 | 13353,20 | 649,80 | 239,90 | 68,00 | 154,10 | 2555,10 | 88,50 | 67,65 | 139,40 | 189,90 | 86,65 | 4,22 | 1,56 | 0,44 | 16,58 | 0,57 | 0,44 | 0,90 |
| 47,3 | 11118,10 | 647,15 | 254,60 | 50,40 | 144,60 | 2454,90 | 82,45 | 66,90 | 160,60 | 224,65 | 76,89 | 4,48 | 1,76 | 0,35 | 16,98 | 0,57 | 0,46 | 1,11 |
| 49,7 | 10957,10 | 590,70 | 192,55 | 74,80 | 134,00 | 2351,40 | 47,60 | 35,60 | 143,30 | 207,05 | 81,77 | 4,41 | 1,44 | 0,56 | 17,55 | 0,36 | 0,27 | 1,07 |
| 49,9 | 12385,00 | 626,15 | 209,40 | 77,90 | 156,40 | 2594,70 | 56,75 | 44,60 | 149,10 | 212,45 | 79,19 | 4,00 | 1,34 | 0,50 | 16,59 | 0,36 | 0,29 | 0,95 |
| 50,1 | 12639,10 | 669,80 | 200,10 | 58,50 | 138,80 | 2543,60 | 60,45 | 46,90 | 150,70 | 243,65 | 91,06 | 4,83 | 1,44 | 0,42 | 18,33 | 0,44 | 0,34 | 1,09 |
| 50,3 | 10411,50 | 658,25 | 206,40 | 76,30 | 175,60 | 2410,70 | 67,80 | 49,15 | 127,50 | 213,50 | 59,29 | 3,75 | 1,18 | 0,43 | 13,73 | 0,39 | 0,28 | 0,73 |
| 50,5 | 16385,40 | 704,70 | 257,55 | 78,80 | 214,60 | 2785,40 | 81,65 | 54,20 | 135,00 | 257,55 | 76,35 | 3,28 | 1,20 | 0,37 | 12,98 | 0,38 | 0,25 | 0,63 |
| 50,7 | 16709,60 | 620,35 | 234,70 | 76,40 | 214,30 | 2916,60 | 77,15 | 56,55 | 117,40 | 244,90 | 77,97 | 2,89 | 1,10 | 0,36 | 13,61 | 0,36 | 0,26 | 0,55 |
| 50,9 | 15861,80 | 666,80 | 209,40 | 61,40 | 188,90 | 2772,20 | 88,65 | 60,05 | 130,70 | 235,25 | 83,97 | 3,53 | 1,11 | 0,33 | 14,68 | 0,47 | 0,32 | 0,69 |
| 51,1 | 16529,90 | 663,60 | 233,30 | 60,80 | 234,50 | 2761,20 | 84,50 | 63,95 | 126,70 | 231,65 | 70,49 | 2,83 | 0,99 | 0,26 | 11,77 | 0,36 | 0,27 | 0,54 |
| 51,3 | 16028,10 | 618,75 | 211,80 | 59,60 | 204,70 | 2540,90 | 83,50 | 69,15 | 123,50 | 225,10 | 78,30 | 3,02 | 1,03 | 0,29 | 12,41 | 0,41 | 0,34 | 0,60 |
| 51,5 | 13525,90 | 602,25 | 239,45 | 50,60 | 210,60 | 2686,90 | 88,75 | 67,20 | 121,10 | 204,00 | 64,23 | 2,86 | 1,14 | 0,24 | 12,76 | 0,42 | 0,32 | 0,58 |
| 51,7 | 12099,60 | 656,65 | 255,25 | 48,70 | 196,40 | 2632,10 | 89,35 | 62,05 | 128,40 | 225,10 | 61,61 | 3,34 | 1,30 | 0,25 | 13,40 | 0,45 | 0,32 | 0,65 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51,9 | 11361,90 | 647,05 | 246,05 | 54,40 | 196,90 | 2558,40 | 90,90 | 52,15 | 116,10 | 241,40 | 57,70 | 3,29 | 1,25 | 0,28 | 12,99 | 0,46 | 0,26 | 0,59 |
| 52,1 | 10336,20 | 631,40 | 258,60 | 59,20 | 171,80 | 2337,90 | 80,55 | 46,75 | 106,80 | 239,30 | 60,16 | 3,68 | 1,51 | 0,34 | 13,61 | 0,47 | 0,27 | 0,62 |
| 52,3 | 9688,00 | 705,20 | 235,80 | 61,20 | 143,10 | 2073,80 | 66,85 | 48,60 | 136,70 | 220,40 | 67,70 | 4,93 | 1,65 | 0,43 | 14,49 | 0,47 | 0,34 | 0,96 |
| 52,5 | 11699,00 | 616,15 | 246,45 | 48,00 | 170,40 | 2450,80 | 67,30 | 44,85 | 126,10 | 214,90 | 68,66 | 3,62 | 1,45 | 0,28 | 14,38 | 0,39 | 0,26 | 0,74 |
| 52,7 | 13532,40 | 630,30 | 238,05 | 51,90 | 178,40 | 2630,80 | 69,50 | 59,80 | 121,10 | 213,90 | 75,85 | 3,53 | 1,33 | 0,29 | 14,75 | 0,39 | 0,34 | 0,68 |
| 52,9 | 16752,60 | 631,85 | 221,60 | 49,60 | 204,50 | 2963,10 | 65,05 | 53,20 | 136,00 | 213,85 | 81,92 | 3,09 | 1,08 | 0,24 | 14,49 | 0,32 | 0,26 | 0,67 |
| 53,1 | 14113,30 | 646,50 | 253,55 | 26,80 | 172,60 | 2859,40 | 63,35 | 48,05 | 116,70 | 228,00 | 81,77 | 3,75 | 1,47 | 0,16 | 16,57 | 0,37 | 0,28 | 0,68 |
| 53,3 | 9498,40 | 646,00 | 198,25 | 35,00 | 147,70 | 2409,30 | 60,60 | 47,20 | 138,30 | 231,25 | 64,31 | 4,37 | 1,34 | 0,24 | 16,31 | 0,41 | 0,32 | 0,94 |
| 53,5 | 11043,20 | 602,85 | 243,75 | 70,20 | 170,70 | 2283,80 | 70,80 | 54,75 | 115,90 | 210,80 | 64,69 | 3,53 | 1,43 | 0,41 | 13,38 | 0,41 | 0,32 | 0,68 |
| 53,7 | 10388,90 | 586,35 | 236,65 | 73,30 | 169,80 | 2333,90 | 68,10 | 62,75 | 126,60 | 231,75 | 61,18 | 3,45 | 1,39 | 0,43 | 13,74 | 0,40 | 0,37 | 0,75 |
| 53,9 | 9452,30 | 622,70 | 229,50 | 52,60 | 156,60 | 2274,50 | 82,10 | 59,40 | 149,10 | 232,10 | 60,36 | 3,98 | 1,47 | 0,34 | 14,52 | 0,52 | 0,38 | 0,95 |
| 54,1 | 9067,90 | 548,45 | 198,60 | 47,90 | 156,70 | 2040,80 | 72,90 | 55,30 | 130,80 | 183,30 | 57,87 | 3,50 | 1,27 | 0,31 | 13,02 | 0,47 | 0,35 | 0,83 |
| 54,3 | 8832,10 | 600,95 | 183,00 | 38,70 | 153,00 | 2075,50 | 68,60 | 49,65 | 126,60 | 203,10 | 57,73 | 3,93 | 1,20 | 0,25 | 13,57 | 0,45 | 0,32 | 0,83 |
| 54,5 | 10869,70 | 615,30 | 177,55 | 57,00 | 198,30 | 2241,40 | 80,00 | 61,30 | 124,70 | 205,90 | 54,81 | 3,10 | 0,90 | 0,29 | 11,30 | 0,40 | 0,31 | 0,63 |
| 54,7 | 11372,80 | 651,60 | 241,35 | 49,20 | 151,60 | 2414,60 | 87,75 | 60,70 | 151,50 | 247,20 | 75,02 | 4,30 | 1,59 | 0,32 | 15,93 | 0,58 | 0,40 | 1,00 |
| 54,9 | 12560,80 | 672,25 | 232,85 | 68,90 | 173,30 | 2365,10 | 89,65 | 55,70 | 165,10 | 250,90 | 72,48 | 3,88 | 1,34 | 0,40 | 13,65 | 0,52 | 0,32 | 0,95 |
| 55,1 | 16259,20 | 644,25 | 239,15 | 86,30 | 201,10 | 2620,30 | 78,80 | 48,95 | 174,60 | 237,90 | 80,85 | 3,20 | 1,19 | 0,43 | 13,03 | 0,39 | 0,24 | 0,87 |
| 55,3 | 20317,40 | 676,65 | 219,70 | 80,30 | 215,60 | 3146,40 | 64,85 | 46,20 | 120,50 | 222,35 | 94,24 | 3,14 | 1,02 | 0,37 | 14,59 | 0,30 | 0,21 | 0,56 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55,5 | 19593,90 | 656,75 | 239,25 | 68,00 | 226,50 | 3291,70 | 60,15 | 39,75 | 151,40 | 215,90 | 86,51 | 2,90 | 1,06 | 0,30 | 14,53 | 0,27 | 0,18 | 0,67 |
| 55,7 | 23046,00 | 639,65 | 224,00 | 99,90 | 262,30 | 3407,30 | 64,10 | 50,20 | 154,00 | 195,50 | 87,86 | 2,44 | 0,85 | 0,38 | 12,99 | 0,24 | 0,19 | 0,59 |
| 55,9 | 23522,20 | 608,60 | 230,55 | 117,60 | 259,10 | 3657,20 | 56,55 | 45,80 | 166,20 | 219,40 | 90,78 | 2,35 | 0,89 | 0,45 | 14,12 | 0,22 | 0,18 | 0,64 |
| 56,1 | 17392,20 | 605,35 | 225,20 | 72,60 | 230,70 | 3731,30 | 72,85 | 55,85 | 165,00 | 231,35 | 75,39 | 2,62 | 0,98 | 0,31 | 16,17 | 0,32 | 0,24 | 0,72 |
| 56,3 | 7438,90 | 599,10 | 189,25 | 39,50 | 102,00 | 2598,80 | 76,10 | 74,15 | 148,30 | 204,60 | 72,93 | 5,87 | 1,86 | 0,39 | 25,48 | 0,75 | 0,73 | 1,45 |
| 56,5 | 6003,70 | 574,55 | 236,15 | 60,70 | 124,80 | 2287,90 | 84,35 | 91,30 | 175,20 | 235,45 | 48,11 | 4,60 | 1,89 | 0,49 | 18,33 | 0,68 | 0,73 | 1,40 |
| 56,7 | 5986,30 | 595,10 | 266,40 | 45,20 | 100,70 | 2433,80 | 88,90 | 83,25 | 191,30 | 249,50 | 59,45 | 5,91 | 2,65 | 0,45 | 24,17 | 0,88 | 0,83 | 1,90 |
| 56,9 | 5090,60 | 612,40 | 275,30 | 24,80 | 94,10 | 2455,80 | 75,50 | 69,60 | 184,00 | 203,80 | 54,10 | 6,51 | 2,93 | 0,26 | 26,10 | 0,80 | 0,74 | 1,96 |
| 57,1 | 5445,10 | 641,40 | 261,85 | 21,80 | 94,00 | 2606,40 | 94,65 | 80,35 | 166,40 | 215,35 | 57,93 | 6,82 | 2,79 | 0,23 | 27,73 | 1,01 | 0,85 | 1,77 |
| 57,3 | 7132,30 | 603,95 | 249,15 | 29,70 | 134,20 | 2691,50 | 90,55 | 83,35 | 177,10 | 223,60 | 53,15 | 4,50 | 1,86 | 0,22 | 20,06 | 0,67 | 0,62 | 1,32 |
| 57,5 | 6078,40 | 665,90 | 243,00 | 29,60 | 169,80 | 2486,50 | 92,50 | 70,60 | 189,70 | 220,90 | 35,80 | 3,92 | 1,43 | 0,17 | 14,64 | 0,54 | 0,42 | 1,12 |
| 57,7 | 6289,50 | 612,35 | 259,55 | 20,80 | 108,60 | 2619,00 | 93,25 | 78,70 | 173,80 | 202,40 | 57,91 | 5,64 | 2,39 | 0,19 | 24,12 | 0,86 | 0,72 | 1,60 |
| 57,9 | 11350,80 | 643,30 | 271,30 | 46,50 | 199,60 | 3097,70 | 100,20 | 81,85 | 182,00 | 209,55 | 56,87 | 3,22 | 1,36 | 0,23 | 15,52 | 0,50 | 0,41 | 0,91 |
| 58,1 | 11031,20 | 653,45 | 255,80 | 44,70 | 183,50 | 2927,00 | 110,90 | 82,10 | 184,70 | 204,25 | 60,12 | 3,56 | 1,39 | 0,24 | 15,95 | 0,60 | 0,45 | 1,01 |
| 58,3 | 7144,20 | 657,65 | 251,25 | 31,00 | 89,70 | 2521,50 | 105,30 | 76,30 | 167,20 | 210,65 | 79,65 | 7,33 | 2,80 | 0,35 | 28,11 | 1,17 | 0,85 | 1,86 |
| 58,5 | 6201,30 | 633,80 | 230,30 | 26,60 | 104,50 | 2289,90 | 103,70 | 78,60 | 175,00 | 210,80 | 59,34 | 6,07 | 2,20 | 0,25 | 21,91 | 0,99 | 0,75 | 1,67 |
| 58,7 | 3664,20 | 618,45 | 211,50 | 31,50 | 78,30 | 1949,80 | 91,80 | 81,55 | 162,20 | 202,55 | 46,80 | 7,90 | 2,70 | 0,40 | 24,90 | 1,17 | 1,04 | 2,07 |
| 58,9 | 3863,00 | 674,70 | 241,95 | 35,20 | 88,80 | 2148,30 | 96,55 | 94,00 | 157,50 | 224,65 | 43,50 | 7,60 | 2,72 | 0,40 | 24,19 | 1,09 | 1,06 | 1,77 |
| 59,1 | 4363,30 | 641,50 | 246,20 | 28,20 | 84,40 | 2071,20 | 97,90 | 93,70 | 152,90 | 210,30 | 51,70 | 7,60 | 2,92 | 0,33 | 24,54 | 1,16 | 1,11 | 1,81 |
| 59,3 | 6292,30 | 645,85 | 260,95 | 40,10 | 98,10 | 2239,60 | 101,10 | 83,05 | 140,20 | 205,10 | 64,14 | 6,58 | 2,66 | 0,41 | 22,83 | 1,03 | 0,85 | 1,43 |

(*continued on next page*)

**Table 5** (*continued*)

| CAV-06 Core Depth (cm) | Ca (cps) (10 kV) | Sr (cps) (30 kV) | Zr (cps) (30 kV) | Al (cps) (10 kV) | Ti (cps) (10 kV) | Fe (cps) (10 kV) | Zn (cps) (30 kV) | Pb (cps) (30 kV) | S (cps) (10 kV) | Rb (cps) (30 kV) | Ca/Ti | Sr/Ti | Zr/Ti | Al/Ti | Fe/Ti | Zn/Ti | Pb/Ti | S/Ti |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59,5 | 4105,90 | 605,60 | 230,15 | 33,70 | 108,60 | 1995,60 | 98,05 | 87,00 | 136,10 | 186,20 | 37,81 | 5,58 | 2,12 | 0,31 | 18,38 | 0,90 | 0,80 | 1,25 |
| 59,7 | 5898,80 | 707,30 | 236,10 | 32,00 | 127,50 | 2164,90 | 109,60 | 95,50 | 131,40 | 228,95 | 46,27 | 5,55 | 1,85 | 0,25 | 16,98 | 0,86 | 0,75 | 1,03 |
| 59,9 | 9138,60 | 715,05 | 246,10 | 47,30 | 147,50 | 2577,90 | 105,70 | 59,20 | 145,90 | 236,70 | 61,96 | 4,85 | 1,67 | 0,32 | 17,48 | 0,72 | 0,40 | 0,99 |
| 60,1 | 10083,20 | 764,65 | 223,70 | 60,90 | 180,30 | 2644,20 | 118,35 | 57,65 | 135,70 | 269,80 | 55,92 | 4,24 | 1,24 | 0,34 | 14,67 | 0,66 | 0,32 | 0,75 |
| 60,3 | 10660,20 | 717,90 | 217,45 | 46,80 | 170,70 | 2586,90 | 118,45 | 56,70 | 126,20 | 246,10 | 62,45 | 4,21 | 1,27 | 0,27 | 15,15 | 0,69 | 0,33 | 0,74 |
| 60,5 | 11662,20 | 728,10 | 203,20 | 66,50 | 155,30 | 2652,50 | 84,20 | 49,40 | 124,90 | 243,65 | 75,09 | 4,69 | 1,31 | 0,43 | 17,08 | 0,54 | 0,32 | 0,80 |
| 60,7 | 11719,80 | 693,60 | 233,35 | 51,90 | 170,30 | 2808,30 | 70,30 | 50,00 | 122,50 | 244,55 | 68,82 | 4,07 | 1,37 | 0,30 | 16,49 | 0,41 | 0,29 | 0,72 |
| 60,9 | 11300,70 | 666,20 | 210,90 | 40,60 | 161,00 | 2917,20 | 63,70 | 45,45 | 126,70 | 237,90 | 70,19 | 4,14 | 1,31 | 0,25 | 18,12 | 0,40 | 0,28 | 0,79 |
| 61,1 | 9113,20 | 673,65 | 230,15 | 43,40 | 133,30 | 2799,10 | 62,70 | 41,05 | 116,80 | 280,05 | 68,37 | 5,05 | 1,73 | 0,33 | 21,00 | 0,47 | 0,31 | 0,88 |
| 61,3 | 9036,60 | 650,00 | 225,35 | 45,70 | 163,20 | 2609,40 | 63,45 | 49,05 | 112,20 | 273,75 | 55,37 | 3,98 | 1,38 | 0,28 | 15,99 | 0,39 | 0,30 | 0,69 |
| 61,5 | 12207,30 | 620,90 | 201,80 | 63,00 | 149,20 | 2606,30 | 62,70 | 48,65 | 133,60 | 233,10 | 81,82 | 4,16 | 1,35 | 0,42 | 17,47 | 0,42 | 0,33 | 0,90 |
| 61,7 | 12275,80 | 699,25 | 198,75 | 57,70 | 135,60 | 2607,90 | 81,15 | 67,35 | 110,30 | 238,45 | 90,53 | 5,16 | 1,47 | 0,43 | 19,23 | 0,60 | 0,50 | 0,81 |
| 61,9 | 12026,30 | 695,30 | 219,75 | 60,70 | 188,90 | 2790,90 | 80,45 | 63,65 | 116,30 | 257,40 | 63,66 | 3,68 | 1,16 | 0,32 | 14,77 | 0,43 | 0,34 | 0,62 |
| 62,1 | 12973,20 | 677,30 | 231,35 | 62,40 | 192,60 | 2917,30 | 82,80 | 76,15 | 101,70 | 268,05 | 67,36 | 3,52 | 1,20 | 0,32 | 15,15 | 0,43 | 0,40 | 0,53 |
| 62,3 | 14861,10 | 703,05 | 250,25 | 78,80 | 243,80 | 2971,20 | 89,95 | 75,35 | 129,50 | 283,95 | 60,96 | 2,88 | 1,03 | 0,32 | 12,19 | 0,37 | 0,31 | 0,53 |
| 62,5 | 16175,60 | 682,20 | 225,10 | 91,50 | 275,00 | 2960,30 | 91,45 | 75,50 | 112,20 | 246,85 | 58,82 | 2,48 | 0,82 | 0,33 | 10,76 | 0,33 | 0,27 | 0,41 |
| 62,7 | 15640,40 | 721,50 | 224,20 | 107,70 | 234,20 | 2807,40 | 89,15 | 88,00 | 121,40 | 270,50 | 66,78 | 3,08 | 0,96 | 0,46 | 11,99 | 0,38 | 0,38 | 0,52 |
| 62,9 | 11557,20 | 683,35 | 240,60 | 95,30 | 200,10 | 2399,10 | 89,05 | 74,50 | 115,20 | 270,65 | 57,76 | 3,42 | 1,20 | 0,48 | 11,99 | 0,45 | 0,37 | 0,58 |
| 63,1 | 14107,40 | 679,35 | 218,00 | 119,60 | 203,70 | 2441,80 | 88,10 | 79,40 | 112,10 | 272,35 | 69,26 | 3,34 | 1,07 | 0,59 | 11,99 | 0,43 | 0,39 | 0,55 |
| 63,3 | 13153,20 | 605,45 | 219,80 | 122,30 | 164,30 | 2209,30 | 80,05 | 61,30 | 118,40 | 234,30 | 80,06 | 3,69 | 1,34 | 0,74 | 13,45 | 0,49 | 0,37 | 0,72 |
| 63,5 | 7746,80 | 502,85 | 157,90 | 77,50 | 105,90 | 1393,00 | 58,95 | 48,50 | 115,00 | 203,65 | 73,15 | 4,75 | 1,49 | 0,73 | 13,15 | 0,56 | 0,46 | 1,09 |

**Table 6**
CHN data for cores CAV-04 and CAV-06.

| Core | Depth (cm) | $N_{tot.}$ (%) | $N_{org.}$ (%) | $\delta^{15}N$ (‰) | $C_{tot.}$ (%) | $C_{inorg.}$ (%) | $C_{org.}$ (%) | $CaCO_3$ (%) | $\delta^{13}C$ (‰) | C/N (molar ratio) |
|---|---|---|---|---|---|---|---|---|---|---|
| CAV-04 | 0.5-1.5 | 0.099 | 0.097 | 1.11 | 7.674 | 6.809 | 0.865 | 56.717 | -26.90 | 10.200 |
| CAV-04 | 2.5-3.5 | 0.126 | 0.128 | 0.49 | 7.607 | 6.537 | 1.070 | 54.453 | -27.25 | 9.883 |
| CAV-04 | 4.5-5.5 | 0.055 | 0.061 | 1.73 | 8.126 | 7.494 | 0.632 | 62.429 | -26.50 | 13.504 |
| CAV-04 | 7.5-8.5 | 0.127 | 0.113 | 0.52 | 8.476 | 7.355 | 1.121 | 61.267 | -27.70 | 10.309 |
| CAV-04 | 15-16 | 0.073 | 0.076 | 2.86 | 7.593 | 6.617 | 0.976 | 55.119 | -25.63 | 15.700 |
| CAV-04 | 17-18 | 0.123 | 0.106 | 3.11 | 9.202 | 7.901 | 1.300 | 65.819 | -26.31 | 12.325 |
| CAV-04 | 19-20 | 0.285 | 0.269 | 3.34 | 11.628 | 9.019 | 2.609 | 75.130 | -27.63 | 10.687 |
| CAV-04 | 23-24 | 0.313 | 0.297 | 3.31 | 12.374 | 9.322 | 3.052 | 77.652 | -28.45 | 11.385 |
| CAV-04 | 26-27 | 0.143 | 0.139 | 2.02 | 12.556 | 10.778 | 1.778 | 89.783 | -28.45 | 14.533 |
| CAV-04 | 29-30 | 0.141 | 0.141 | 2.53 | 12.509 | 10.786 | 1.723 | 89.847 | -27.71 | 14.285 |
| CAV-04 | 34-35 | 0.137 | 0.139 | 2.39 | 12.670 | 11.211 | 1.458 | 93.391 | -27.90 | 12.448 |
| CAV-04 | 42-43 | 0.149 | 0.166 | 2.75 | 12.812 | 10.906 | 1.906 | 90.846 | -27.88 | 14.878 |
| CAV-04 | 48-49 | 0.129 | 0.139 | 3.13 | 12.692 | 10.997 | 1.695 | 91.609 | -27.59 | 15.385 |
| CAV-06 | 0-1 | 0.070 | 0.147 | 2.34 | 6.470 | 5.649 | 0.820 | 47.060 | -26.82 | 13.755 |
| CAV-06 | 2-3 | 0.071 | 0.099 | 1.54 | 8.003 | 7.276 | 0.728 | 60.607 | -26.97 | 11.909 |
| CAV-06 | 4.5-6 | 0.076 | 0.101 | 1.47 | 6.396 | 5.751 | 0.645 | 47.905 | -27.18 | 9.897 |
| CAV-06 | 6-7 | 0.053 | 0.083 | 2.04 | 3.438 | 3.089 | 0.348 | 25.735 | -26.82 | 7.710 |
| CAV-06 | 7.5-8.5 | 0.174 | 0.083 | -0.69 | 8.611 | 8.001 | 0.610 | 66.647 | -27.10 | 4.087 |
| CAV-06 | 9.5-10.5 | 0.078 | 0.088 | 1.60 | 8.001 | 7.325 | 0.676 | 61.020 | -27.37 | 10.091 |
| CAV-06 | 13-14 | 0.061 | 0.132 | 0.30 | 8.265 | 7.208 | 1.057 | 60.046 | -27.45 | 20.379 |
| CAV-06 | 14-15 | 0.100 | 0.138 | 1.48 | 8.062 | 7.248 | 0.814 | 60.379 | -27.99 | 9.504 |
| CAV-06 | 16-17 | 0.102 | 0.132 | 1.45 | 8.055 | 6.914 | 1.141 | 57.592 | -27.23 | 13.045 |
| CAV-06 | 18.5-19.5 | 0.079 | 0.131 | 0.73 | 8.690 | 7.436 | 1.253 | 61.946 | -27.60 | 18.609 |
| CAV-06 | 21-22 | 0.107 | 0.207 | 1.50 | 8.112 | 5.850 | 2.262 | 48.730 | -26.25 | 24.624 |
| CAV-06 | 23-24 | 0.108 | 0.107 | 0.23 | 7.955 | 7.185 | 0.770 | 59.851 | -27.06 | 8.316 |
| CAV-06 | 27-5-28.5 | 0.098 | 0.148 | 1.42 | 8.560 | 7.201 | 1.359 | 59.985 | -27.27 | 16.147 |
| CAV-06 | 31-32 | 0.061 | 0.087 | 1.33 | 7.033 | 6.470 | 0.562 | 53.898 | -26.54 | 10.739 |
| CAV-06 | 34-35 | 0.069 | 0.071 | 0.93 | 8.392 | 7.714 | 0.678 | 64.256 | -26.50 | 11.462 |
| CAV-06 | 39-40 | 0.103 | 0.129 | 1.96 | 8.303 | 7.046 | 1.257 | 58.693 | -26.73 | 14.260 |
| CAV-06 | 41-43 | 0.028 | 0.063 | 0.00 | 10.841 | 10.266 | 0.576 | 85.512 | -26.77 | 24.364 |
| CAV-06 | 46-47 | 0.061 | 0.084 | 1.56 | 8.479 | 7.550 | 0.928 | 62.895 | -26.72 | 17.620 |
| CAV-06 | 48-50 | 0.109 | 0.157 | 1.10 | 8.529 | 6.486 | 2.043 | 54.028 | -26.61 | 21.844 |
| CAV-06 | 52-53 | 0.079 | 0.128 | 1.27 | 8.583 | 7.300 | 1.283 | 60.808 | -26.80 | 19.046 |
| CAV-06 | 55-56 | 0.058 | 0.106 | 1.81 | 8.421 | 7.600 | 0.821 | 63.305 | -26.43 | 16.625 |
| CAV-06 | 58-59 | 0.105 | 0.152 | 1.27 | 9.416 | 7.048 | 2.368 | 58.708 | -26.07 | 26.322 |
| CAV-06 | 61-62 | 0.049 | 0.109 | 2.04 | 7.936 | 7.232 | 0.705 | 60.239 | -26.30 | 16.785 |

**Table 7**
Ground shakings for selected earthquakes of the 1976-77 seismic sequence at two seismic stations nearby the Cavazzo Lake, and at the lake centre (location map in Fig. DIB23). Peak Ground Acceleration and Velocity (PGA, PGV) values are given in bold if available (D'Amico et al., [2]; n.g. means not given); values in square brackets correspond to +/- 1 standard deviation of the mean predicted values according to Bindi et al. [3], differentiated soil type. Marked in green those shakings that potentially trigger slope instabilities in the Cavazzo Lake

| Event date | Depth (km) | $M_L$ | TLM1Type BPGA cm/s$^2$(PGV cm/s) | SMUType BPGA cm/s$^2$(PGV cm/s) | Lake centre Type EPGA cm/s$^2$ |
|---|---|---|---|---|---|
| 1976/05/06 19:59 | 9.4 | 4.3 | **158** – [2-11] (**30**) | n.g. – [4-19] | [4-19] |
| 1976/05/06 20:00 | 7.0 | 6.4 | **345** – [38-181] (**1.2**) | n.g. –[54-256] | [50-236] |
| 1976/05/09 00:53 | 11.6 | 5.3 | **36** – [9-43] (**1.2**) | n.g. – [13-63] | [12-58] |
| 1976/09/11 16:35 | 4.8 | 5.6 | n.g. – [10-47] | n.g. –[33-155] | [32-151] |
| 1976/09/15 03:15 | 7.0 | 5.3 | n.g. – [32-151] | n.g. –[51-242] | [49-231] |
| 1976/09/15 09:21 | 12.1 | 6.1 | n.g. – [43-201] | n.g. –[59-280] | [52-244] |
| 1977/09/16 23:48 | 11.3 | 5.2 | **90** – [27-125] (**7.1**) | **179** –[32-152] (**7.6**) | [21-100] |

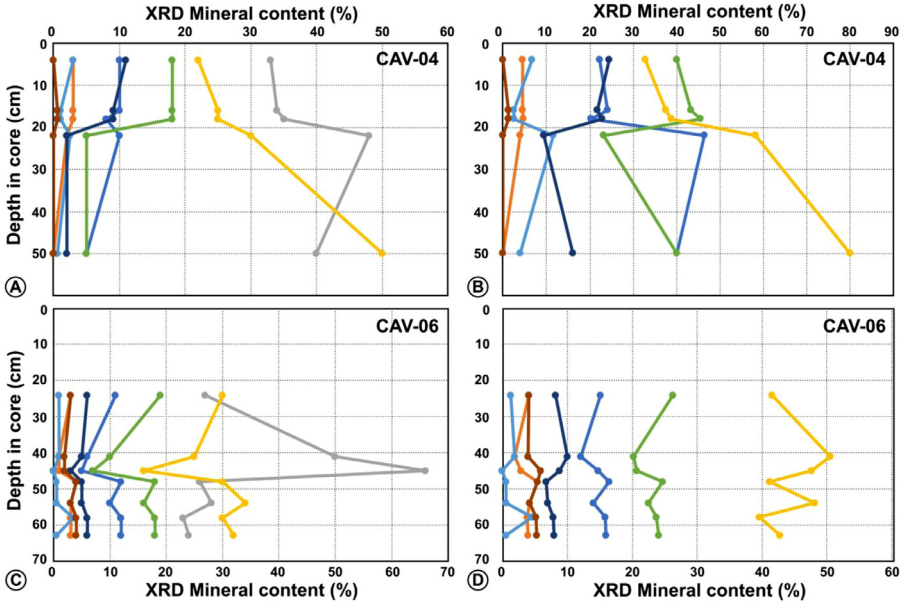


**Fig. 6.** XRD-results for cores CAV-04 **(A, B)** and CAV-06 **(C, D)**, with Rietveld-quantification of relative mineral phase abundances (%) against depth (cm) in core; Gypsum (light blue), Plagioclase (orange), Amphibole (brown), Chloride (dark blue), Quartz (blue), Illite (green), Calcite (light grey) and Dolomite (yellow). Calcite and Dolomite provide the principal grain components, while Illite dominates the matrix. At the event bed in CAV-06 between -45 and -41 cm Calcite is more prevalent than dolomite, their relative proportions reverse. **B)** and **D)** same as **A)** and **C)**, but calcite signal removed.

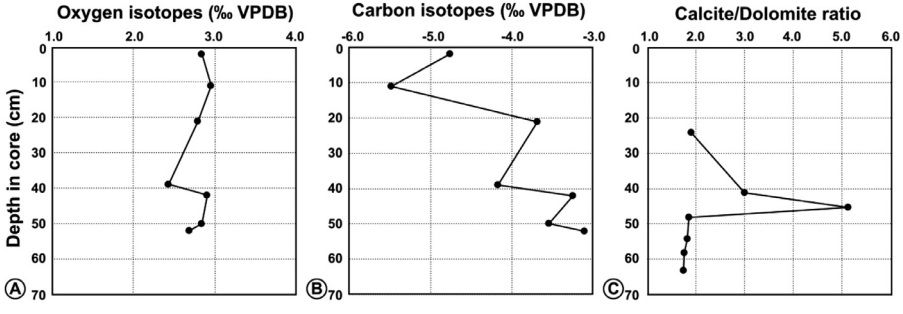


**Fig. 7.** Core CAV-06, **A)** Oxygen isotope composition of bulk sediment ($\delta^{18}O_{carbonate}$ ‰ vs. VPDB), **B)** Stable carbon isotope composition of bulk sediment ($\delta^{13}C_{carbonate}$ ‰ vs. VPDB), **C)** Calcite/Dolomite ratio in bulk sediment from XRD, changes in their proportions at the event bed (-42 cm) have no visible effect on the stable isotope composition of $\delta^{18}O$ and $\delta^{13}C$ of carbonate in bulk sediment.

A standard procedure for micropaleontological analysis was followed for sample preparation. All samples were stored in an oven with temperatures of 50 °C for 24 hours and subsequently weighed. After being left soaking for 24 hours into demineralized water, the samples were then wet sieved with a mesh size of 63 µm. The residual of all samples was finally filtered, dried at 50 °C, weighed and stored in polyethylene bags.

The qualitative description has been carried out analysing the most common features and accessories typically found in lacustrine sediment samples, i.e. i) color (of the lamina/level, of the residual sediment >63 µm), ii) occurrence and nature of clasts (focusing on CaCO3 clasts), iii) vegetation-related accessories (generic vegetal frustules, wood fragments, leaf fragments,

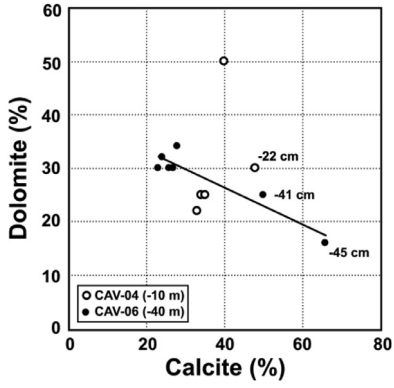


**Fig. 8.** Dolomite and Calcite abundances in core CAV-04 (open circles) and CAV-06 (filled circles) from XRD in bulk sediment. The shallower site CAV-04 is dominated by Calcite (~35%) over Dolomite (~25%) and shows an up-concentration of both in the event bed at -22 cm. The deeper site CAV-06 is dominated by Dolomite (~35%) over Calcite (~25%), during the Friuli earthquake this proportion reverses and event beds show an increase of Calcite to ~50% (-41 cm) and 65% (-45 cm). This is related to the import of more competent coarse-grained calcite grains from shallower water during mass-transport.

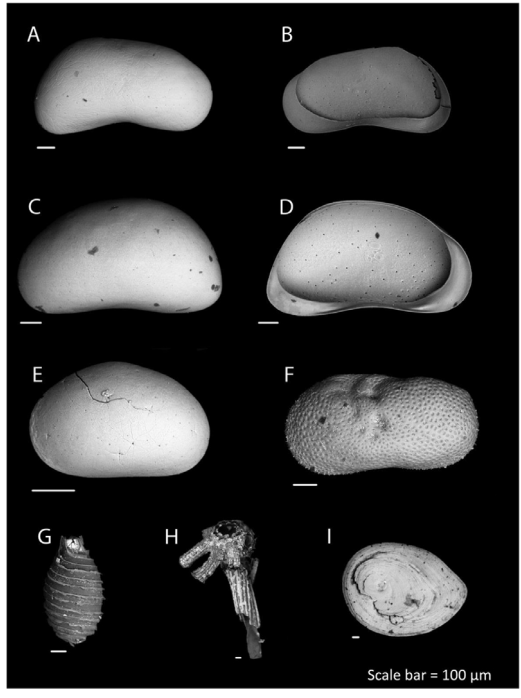


**Fig. 9.** Ostracod and accessory material plate. **A)** *Candona neglecta*, right valve, external lateral view, **B)** *Candona neglecta*, left valve, internal lateral view, **C)** *Candona candida*, left valve, external lateral view, **D)** *Candona candida*, left valve, internal lateral view, **E)** *Eucypris* sp., left valve, external lateral view, **F)** *Ilyocypris* sp., left valve, external lateral view, **G)** Oospore of benthic algae, **H)** Thallus fragment of benthic macrophyte algae belonging to the gen. *Chara*, **I)** Operculum of a gastropod belonging to the gen. *Bythinia*.

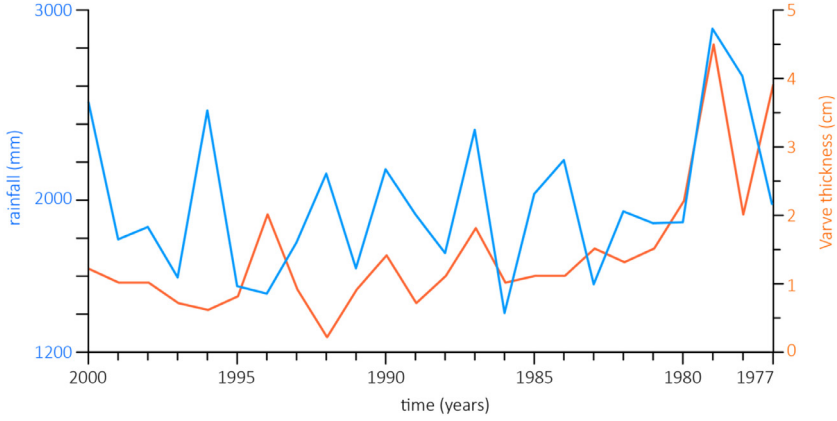


**Fig. 10.** Graph with the precipitation data (mm) next to a log of annual layer thickness (cm), to visualize this possible relationship in support of the age model (from laminae counts plus Cs-peak of the year 1986).

algae fragments, oospores, gyrogonites), and iv) benthic thanatocoenoses (various shell fragments, presence/absence of bivalve and gastropod tests, ostracod valves).

Ostracods were typically classified up to genus or, when possible, to species, through the morphology of their valves, taking into account valve outline, carapace ornamentation, shape of the vestibules and muscle scars (where visible). Classification was based upon the guide to British freshwater ostracods (Henderson, [6]) and the work by Pieri et al. [7] concerning the freshwater ostracod fauna in Friuli, even though, as shown by Mazzini et al [8] for the genus *Ilyocypris*, the analysis of the valve may be not sufficient to define the species. Gastropod shells and opercula were identified through the work of Benantelli et al. [9].

SEM (Scanning Electron Microscope) observations were carried out for detailed analysis of main accessory components in the sediments selected through stereomicroscope. At least one photo for each species found has been collected, with particular attention to muscle scars. Images of interesting elements were also collected, such as benthic macrophyte rests, oospores and authigenic carbonate clasts. On these latter, elemental geochemical analyses were also carried out using an X-ray EDS spectrometer to determine their composition.

Geochemical data of cores CAV-04 and CAV-06 were collected with an Avaatech 3$^{rd}$ generation XRF-Core Scanner at ISMAR CNR-Bologna, to estimate the elementary properties of lake sediments and characterize the variations of major and minor elements (Richter et al., [10]). Continuous elemental variations were obtained at 2 mm scanning resolution during two runs in order to be able to resolve the mm-thick laminae. The first with 10 s exposure time, Tube Voltage at 10 kV, Current intensity 400 μA for Al, S, Ca, Ti, Fe; the second with 20 s exposure time, Tube Voltage at 30 kV, Current intensity 400 μA for Zn, Sr, Zr, Pb. The XRF core scanner results are expressed as peak intensities in counts per seconds (cps).

Mineralogical data were obtained by X-Ray Powder Diffraction (XRPD), by using a GNR APD2000PRO diffractometer equipped with a secondary graphite monochromator, under the following experimental conditions: CuK$\alpha$ radiation, power supply 40kV/40mA, 1 ° divergence and scatter slits, 0.2 mm receiving slit, 0.02° ($2\theta$) step size and counting time of 3 s/step, data collection scan 5-65° $2\theta$. We analysed 12 key layers, 5 from core CAV-04 and 7 from core CAV-06. Before mineralogical analysis, samples were dried at 50 °C for a few hours and grinded manually in an agate mortar to obtain a very fine powder but preserving the lattice crystalline structure of minerals. All powder samples were prepared by filling a side-entry aluminum holder in order to obtain a quasi-random orientation. Mineralogical parameters were determined via processing of the XRD patterns by MATCH! analysis software and identification of minerals was based on comparison with PDF-2 reference data supplied from the ICDD (*International Centre Diffrac-*

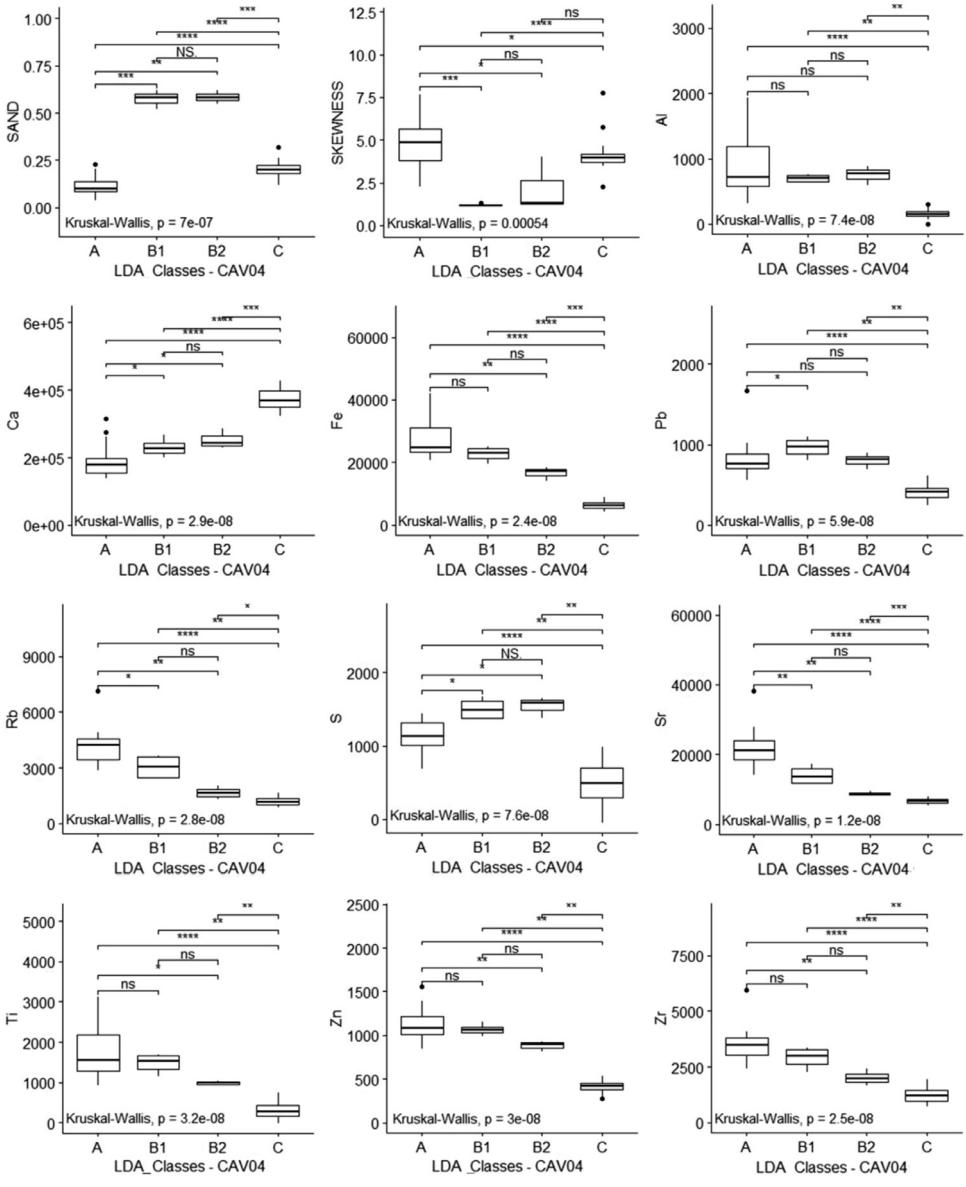


**Fig. 11.** Kruskal-Wallis test and multiple comparison test results for LDA predicted units of CAV-04. Center line indicates the median, the edges of the box represent 25 and 75 percentiles, whiskers show entire data range. Each significance level is associated to a symbol: p-values 0.001 (***), 0.01 (**), 0.05 (*). NS means there is no significant difference.

*tion Data*). A semi-quantitative analysis (statistical error about 10-20%) of minerals identified by XRPD, was obtained by a normative re-calculation based on the chemical analysis, and Rietveld method.

Total carbon (TC) and total nitrogen (TN) were performed on selected homogenized sediments and determined using a *FISONS NA2000* elemental analyser coupled to a *Finnigan Delta Plus* mass spectrometer via a *CONFLO* interface. For measurement of content (TOC) and stable

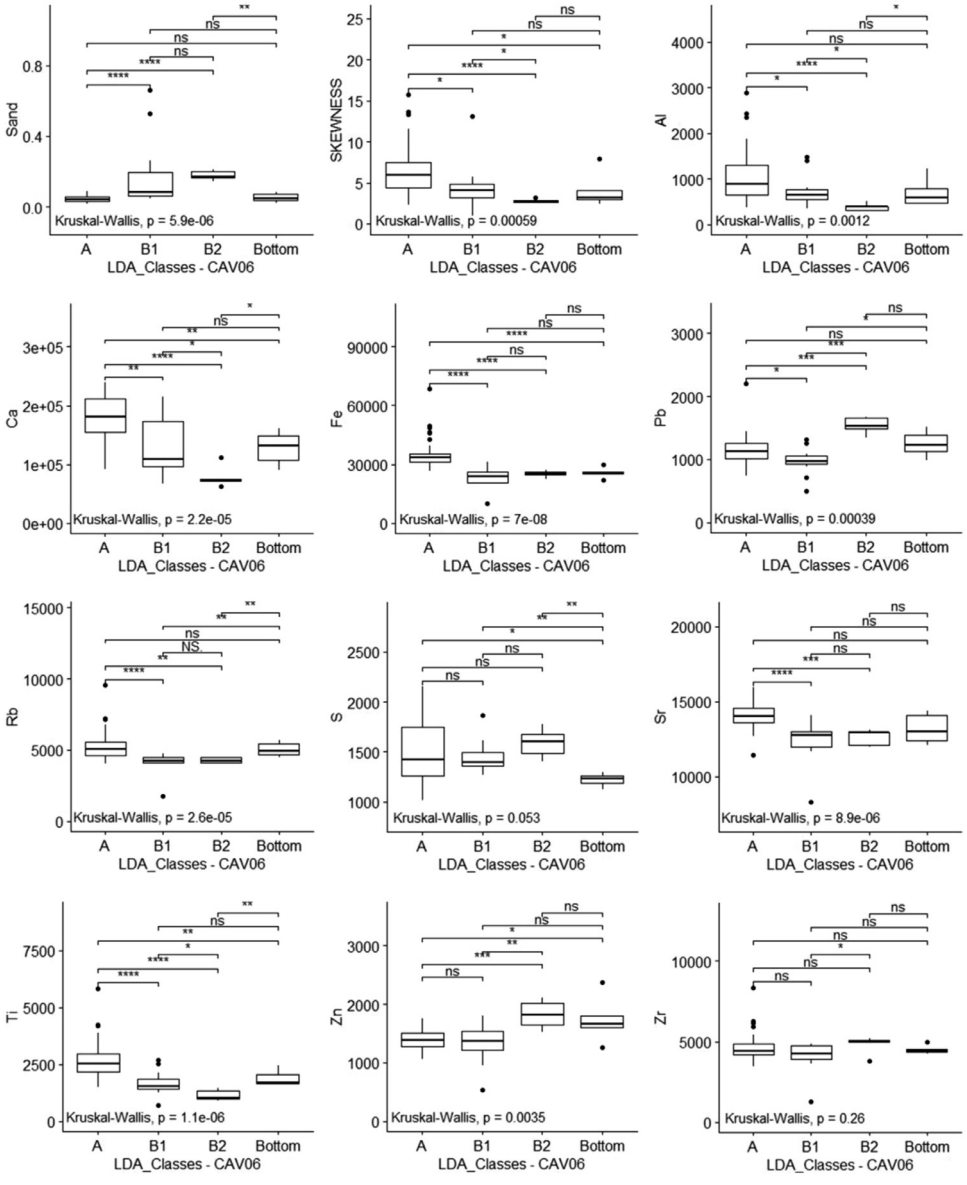


**Fig. 12.** Kruskal-Wallis test and multiple comparison test results for LDA predicted units of CAV-06. Center line indicates the median, the edges of the box represent 25 and 75 percentiles, whiskers show entire data range. Each significance level is associated to a symbol: p-values 0.001 (***), 0.01 (**), 0.05 (*). NS means there is no significant difference.

isotope ratios ($\delta^{13}C_{org}$) of total organic carbon, sediments were acidified (HCl, 1.5 M) to remove carbonates. TOC and TN contents are reported as percent of dry weight (wt%). C/N was calculated as molar ratio between TOC and TN (14/12*wt% TOC/wt% TN). The accuracy of element contents, calculated using an atropine standard, is ±0.61 and ±0.11% for carbon and nitrogen, respectively, while precision is 0.07 and 0.01% (1 std.dev.) Accuracy for $\delta^{13}C$ and $\delta^{15}N$ was ±0.20 ‰ and ±0.13 ‰ while precision is better than 0.2 ‰ (1 std.dev.)

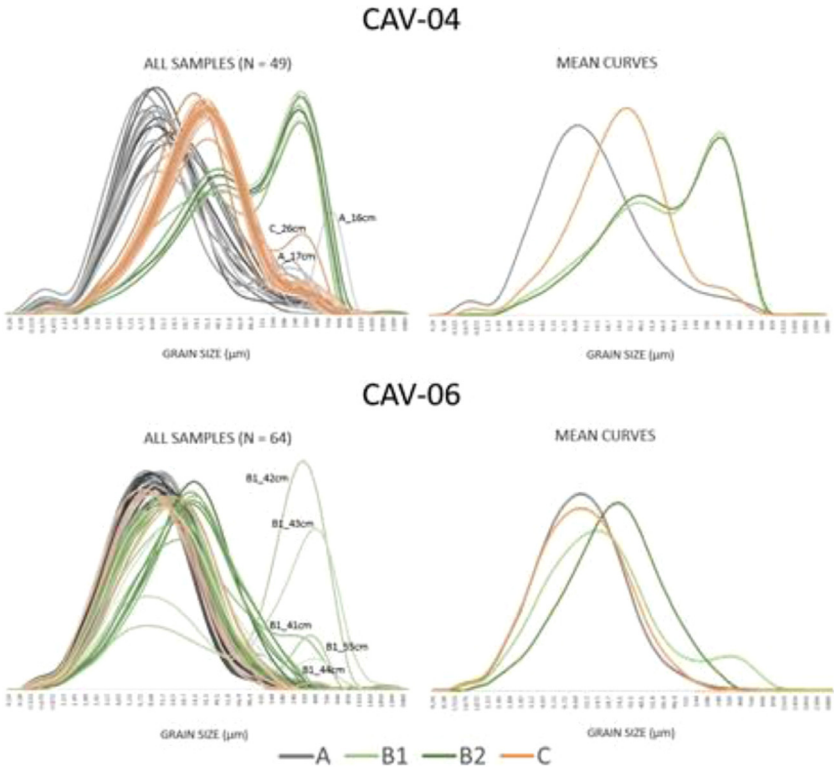


**Fig. 13.** Grain size distribution curves of the cores CAV-04 and CAV-06. A, B1, B2 and C represent the predicted lithological units identified in each core.

For carbonate isotope analyses, powdered sediment samples were reacted with 100% phosphoric acid at 70 °C using a Gasbench II connected to a ThermoFisher Delta V Plus mass spectrometer to obtain carbon ($\delta\ ^{13}C_{carb}$) and oxygen ($\delta\ ^{18}O_{carb}$) isotope ratios. $\delta\ ^{13}C_{carb}$ and $\delta\ ^{18}O_{carb}$ values are reported in ‰ relative to V-PDB. International standards (NBS19 and IAEA CO9 for carbon and NBS19 and NBS18 for oxygen were used for calibration and provided a reproducibility for $\delta^{13}C_{carb}$ and $\delta^{18}O_{carb}$ of ±0.07 ‰ and ±0.05 ‰ (1 std.dev.), respectively.

Sediment sampling for optical microscopy, SEM and stable isotopes in core CAV-06 targeted the following horizons: −2 cm, −11 cm, −21 cm, −39 cm, −42 cm, −50 cm and −52 cm. About 0.75 g where extracted from each horizon with a spatula and transferred into Eppendorf vials. Bulk sediment was dried overnight at GZN in an oven at 35 °C. A subsample of 0.25 g was powdered in an agate mortar and 0.25 µg of this homogenized material was used for stable isotope analyzes of $\delta^{13}C$ and $\delta^{18}O$ in the bulk carbonate fraction. Further ~0.25 g of the dry bulk sediment was embedded under vacuum in epoxy resin and polished for optical microscopic documentation and investigation with a Scanning-Electron-Microscope. Light microscopy of polished surfaces (800 grit) was carried out on a ZEISS AxioVision at GZN. The seven polished blocks with epoxy-embedded sediment were carbon-coated on a BALTEC MED020 system. The surfaces were then examined with a VEGA-TESCAN Scanning-Electron-Microscope in secondary electron and back-scattered electron modes (SE/BSE) at 20 kV, 9 PC with a typical working distance of 15 mm. Grain-sizes and shapes could be screened, but also their basic composition from BSE-intensities helped to distinguish plant debris and mineral grains.

Carbonate powders were reacted with 100% phosphoric acid at 70 °C using a Gasbench II connected to a ThermoFisher Delta V Plus mass spectrometer. All values are reported in permille

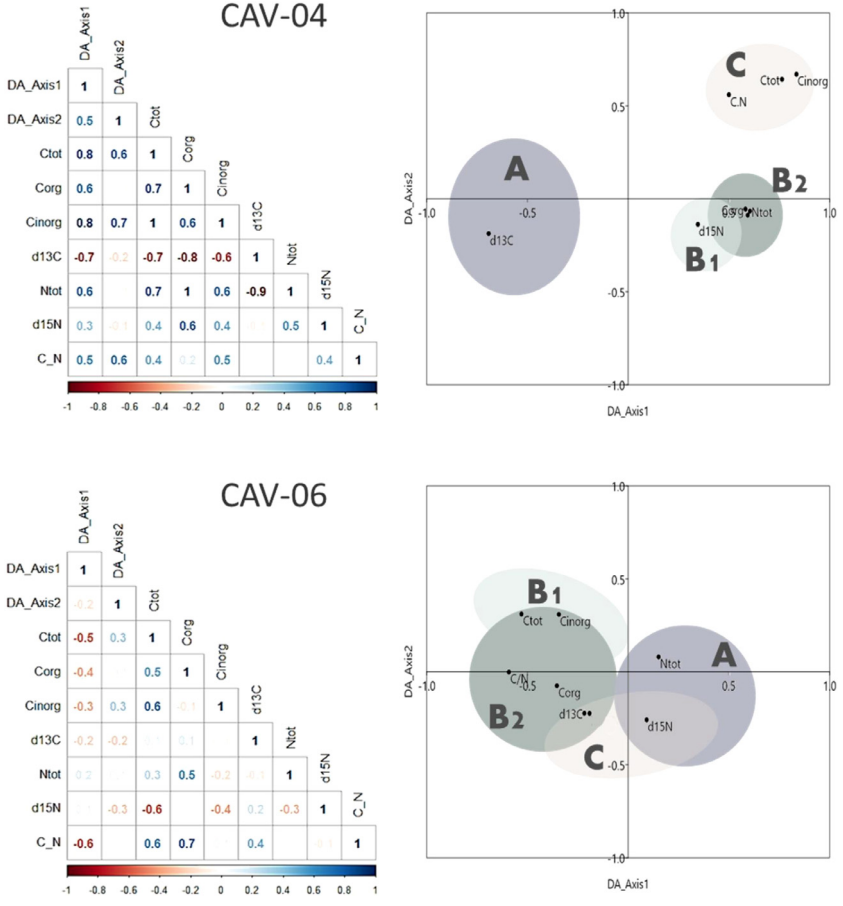


**Fig. 14.** Spearman Correlation matrices and biplot graph representing the correlation (rs) among the LDA discriminant axis (DA-Axis 1 and DA-Axis 2) and organic descriptor variables in the cores CAV-04 and CAV-06. Empty or light cells have values in the interval -0.2 to 0.2.

relative to V-PDB. Reproducibility and accuracy were monitored by replicate analysis of laboratory standards calibrated by assigning a $\delta^{13}C$ of +1.95 ‰ to NBS19 and −47.3 ‰ to IAEACO9 and a $\delta^{18}O$ of −2.20 ‰ to NBS19 and −23.2 ‰ to NBS18. Reproducibility for $\delta^{13}C$ and $\delta^{18}O$ was ±0.07 ‰ and ±0.05 ‰ (1 std.dev.), respectively. Phosphoric acid fractionation factors by Kim et al. (2007) for calcite are applied. Bulk sediment contains varying proportions of calcite and dolomite, which has not been accounted for, since the eventual effects on the exact isotopic composition are minor with respect to the resolution required to distinguish methanogenetic, authigenic and detrital origins. Additionally, XRD-data and bulk carbonate concentrations from CAV-04 and CAV-06 were examined for mineral abundances and interpreted together with the stable isotope data.

The first step in the statistical treatment was to detect multicollinearity among the variables related to the grain size and XRF-CS datasets. From this, a fewer number of variables which were not strongly correlated (correlation coefficient $< 0.9$) were selected for the multivariate statistical analysis. Then, a Linear Discriminant Analysis (LDA) was applied to assess the association of each sample to the lithological units A, B1, B2 and C, defined a priori for the cores CAV-04 (49 cases) and CAV-06 (62 cases). The group membership probabilities were assigned based on the maximum differences of linear combinations of 12 independent variables: percentage of

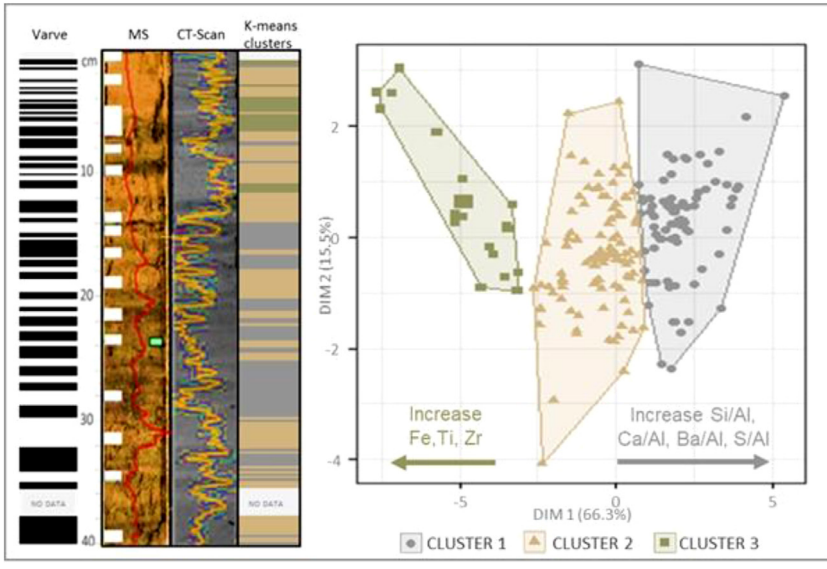


**Fig. 15.** Schematic representation of the vertical distribution of the K-means groups along Unit-A of the CAV-06 core compared to magnetic susceptibility (red line), CT-Scan (yellow line) and varve occurrence. PCA reduced-data for visual representation of the results for the k-means clustering and their association to XRF-based geochemical variables.

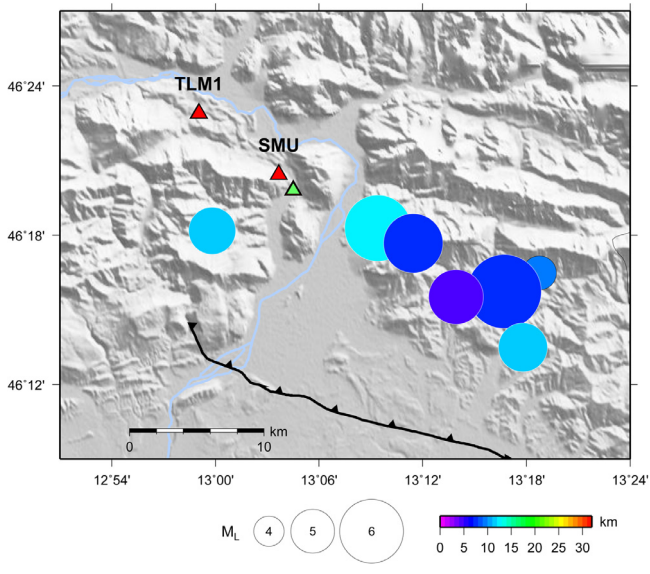


**Fig. 16.** Location map of selected earthquakes of the 1976-77 seismic sequence and sites used in DIB22S19. The red triangles represent the existing accelerometric stations of Ambiesta (TLM1) and Somplago (SMU), the green one the coordinate of the Cavazzo Lake centre. The hypocentral location and magnitude are taken from Rebez et al. [4]. The fault represented in black is the Susan-Tricesimo Thrust, considered to be the seismic source of the 1976-77 sequence by Poli and Zanferrari [5]. This fault and the easternmost earthquakes, as given by the referenced authors, fall outside the plot area of Fig. 1.

sand, skewness, elemental levels (cps) of Al, Ca, Fe, Pb, Rb, S, Sr, Ti, Zn and Zr. LDA was run on z-value transformed data. The proportion of between-class variance explained by the first two discriminant functions were 98.4% for the CAV-04 and 93.6% for the CAV-06. The predicted classes were then used to "downscale" the continuous description of the core log and XRF-CS datasets to a 1 cm-scale resolution (equal to the grain size acquisition interval). In order to verify which variables used in LDA were significantly different among the discriminated groups, Kruskal-Wallis one-way ANOVA was used. When the similarity between groups ($H_0$) was rejected for a significance level of 0.05, the Dunn's test was applied as nonparametric pairwise multiple comparison (post hoc test). Multiple correlation analysis based on Spearman rank order coefficient were carried out among the scores of the first two discriminant axis and organic geochemical data (total carbon, organic and inorganic carbon, total nitrogen, C/N ratio, $\delta$13C and $\delta$15N) for each core. These variables were not previously included in the discriminant analysis because of their irregular and lower than 1 cm sampling resolutions. The use of scores resulting from the LDA as mathematical variables, representing the compression of main information about grain size and XRF-CS elemental level distribution through the cores, was adopted as a strategy to match datasets with different number of cases.

K-means clustering method was applied to identify similar geochemical patterns along unit A of the core CAV-06 and to evaluate the XRF data potential in the laminae geochemical characterization. The variables used in this analysis (Fe, Ti, Zr, Si/Al, Ca/Al, Ba/Al e S/Al) were rescaled, centering the values to a mean of 0 and a standard deviation of 1. The total within-cluster variation was obtained by the sum of squared Euclidean distances between the cases and the corresponding centroid, according the Hartigan-Wong algorithm. The number of clusters ($k = 3$) was chosen based on the best clustering scheme from a compilation of different indices processed by the NbClust R Package. All data were analyzed using a multivariate statistical software (PAST - PAleontological STatistics, v 3.25; Hammer et al., [11]) and the following R packages: Mass; kruskal.test; ggboxplot, corrplot, Factoextra and NbClust (R Core Team, [12]).

In order to understand if seismic activity played a role in resedimentation processes we analyzed peak ground velocities during the major 1976-1977 seismic events. We compare observed and predicted ground shakings at three sites, nearby and inside the Cavazzo Lake (Table 7). The observed values of Peak Ground Acceleration (PGA) and Peak Ground Velocity (PGV), taken from D'Amico et al. [2] at the existing accelerometric stations of Ambiesta (TLM1) and Somplago (SMU), are given in bold. The predicted values are given in square brackets; they represent the +/- 1 standard deviation interval on mean PGA, using Bindi et al. [3] ground motion prediction equation for hypocentral distance: location and magnitude of the selected events are taken from Rebez et al. [4].

We assign different soil type at the accelerometric stations (class B, corresponding to Vs30 360-800 m/s) and to the lake site (class E compatible with unconsolidated shallow deposits). This computation has been performed for a preliminary comparison only, as it is out of the scope of this paper to investigate the impact of source dimension (that affect the source to site distance), magnitude uncertainties, and adequacy of PGA for representing mobilization conditions for subaqueous deposits.

## Ethics Statement

None.

## CRediT Author Statement

**Alina Polonia:** performed writing, original draft and conceptualization; **Sonia Albertazzi, Luca Giorgio Bellucci** and **Silvia Giuliani:** performed radiometric dating analyses; **Carla Bonetti** and **Jarbas Bonetti:** performed statistical analyses on geochemical and sedimentological data;

**Giulia Giorgetti:** performed micropaleontological analyses and interpretation of geochemical data; **Matthias López Correa** and **Christoph Mayr:** performed isotopic and SEM analyses and interpretation of mineralogical data; **Andrea Gallerani** and **Stefano Miserocchi:** acquired XRF data on sediment cores; **Laura Peruzza:** performed seismo-tectonic analyses; **Fabio Savelli:** performed CHN analyses on sediment samples; **Giuseppe Stanghellini:** acquired geophysical and geological data; **Luca Gasperini:** performed conceptualization, data acquisition, processing and interpretation. All co-authors performed data interpretation, writing, review and editing.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have or could be perceived to have influenced the work reported in this article.

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## Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2021.107202.

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