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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | |  | **Physical-chemical**  **(sum-)parameters** | |  | **Chemical parameters -**  **trace elements** | |  | **Isotopes** | |
| number | numeric (4) |  | Temperature [°C] | numeric (2.1) or text |  | Ag [µg/L] | numeric (4.3) |  | Δ2H [‰-VSMOW] | numeric (2.1) |
|  |  |  | Electric Conductivity at 25 °C [µS/cm] | numeric (6) |  | Al [µg/L] | numeric (4.3) |  | 3H [TU] | numeric (2.2±1.2) |
| **Metadata** | |  |  | As [µg/L] | numeric (4.3) |  | 3He/4He [-] | numeric (1.2) |
|  | pH [-] | numeric (2.2) |  | Ba [µg/L] | numeric (4.3) |  | Δ13C [‰-VPDB] | numeric (2.2) |
| Town | text | Redox potential [mV] | numeric (3) |  | Be [µg/L] | numeric (4.3) |  | 14C [%-mod. C] | numeric (2.1±1.1) |
| Well or spring name | text |  | Density [g/cm³] | numeric (1.5) |  | Cd [µg/L] | numeric (4.3) |  | Δ18O [‰-VSMOW] | numeric (2.2) |
| Alternative name | text |  | Density measurement temperature [°C] | numeric (2.1) |  | Co [µg/L] | numeric (4.3) |  | Δ34S [‰-VCDT] | numeric (2.1±1.1) |
| Observations on water containment system | text |  |  | Cr [µg/L] | numeric (4.3) |  | Rn [Bq/L] | numeric (4.1) |
|  | Turbidity [FNU] | numeric (2.2) |  | Cs [µg/L] | numeric (4.3) |  | Ra [Bq/L] | numeric (3.3) |
| Coordinates [GK, R] | numeric (7) |  | Discharge [L/s] | numeric (2.3) |  | Cu [µg/L] | numeric (4.3) |  | 224Ra [Bq/L] | numeric (3.3) |
| Coordinates [GK, H] | numeric (7) |  | Total hardness [°dH] | numeric (3.2) |  | Hg [µg/L] | numeric (4.3) |  | 226Ra [Bq/L] | numeric (3.3) |
| Coordinates [UTM, E] | numeric (6) |  | Carbonate hardness [°dH] | numeric (2.2) |  | Mo [µg/L] | numeric (4.3) |  | 228Ra [Bq/L] | numeric (3.3) |
| Coordinates [UTM, N] | numeric (7) |  |  | Ni [µg/L] | numeric (4.3) |  | 212Pb [Bq/L] | numeric (1.1) |
| Altitude [m asl] | numeric (3.2) |  | Oxygen consumed [mg/L KMnO4] | numeric (2.2) |  | Pb [µg/L] | numeric (4.3) |  | 214Pb [Bq/L] | numeric (1.1) |
| Water containment system (well, spring) | text |  |  | Rb [µg/L] | numeric (4.3) |  | 40K [Bq/L] | numeric (1.1) |
|  | Evaporation residue [mg/L] | numeric (6) |  | Sb [µg/L] | numeric (4.3) |  | 131I [Bq/L] | numeric (1.1) |
| Final depth [m bgl] | numeric (4.2) |  |  | Se [µg/L] | numeric (4.3) |  | 134Cs [Bq/L] | numeric (1.1) |
| Depth of filter screen - top [m bgl] | Numeric (4.2) |  | TDS (stated) [mg/L] | numeric (6.3) |  | Sn [µg/L] | numeric (4.3) |  | 137Cs [Bq/L] | numeric (1.1) |
|  | TDS (calculated) [mg/L] | numeric (6) |  | Th [µg/L] | numeric (4.3) |  |  |  |
| Depth of filter screen - bottom [m bgl] | Numeric (4.2) |  | Electrical balance [%] | numeric (2.2) |  | Ti [µg/L] | numeric (4.3) |  |  |  |
|  |  |  |  | Tl [µg/L] | numeric (4.3) |  |  |  |
| Static water level [m asl] | numeric (3.2) or text |  | **Chemical parameters -**  **major elements** | |  | U [µg/L] | numeric (4.3) |  |  |  |
|  |  | V [µg/L] | numeric (4.3) |  |  |  |
| Hydraulic conductivity [m/s] | numeric |  | Na [mg/L] | numeric (6.2) |  | Zn [µg/L] | numeric (4.3) |  |  |  |
|  | Mg [mg/L] | numeric (6.2) |  |  |  |  |  |  |
| Rock type | text |  | Ca [mg/L] | numeric (6.2) |  | **Dissolved gases** | |  |  |  |
| Local stratigraphic unit | text |  | Cl [mg/L] | numeric (6.2) |  |  |  |  |
| Period | text |  | SO4 [mg/L] | numeric (6.2) |  | O2 [mg/L] | numeric (2.2) |  |  |  |
| Thermal water | text |  | HCO3 [mg/L] | numeric (6.2) |  | CO2 [mg/L] | numeric (4.1) or text |  |  |  |
| Mineral water | text |  |  |  |  | H2S [mg/L] | numeric (2.3) |  |  |  |
| Brine | text |  | **Chemical parameters -**  **minor elements** | |  | N2 [mg/L] | numeric (2.3) |  |  |  |
| Acidulous water | text |  |  | Ar [mg/L] | numeric (2.3) |  |  |  |
| Cations | text |  | Li [mg/L] | numeric (4.4) |  |  |  |  |  |  |
| Anions | text |  | K [mg/L] | numeric (4.4) |  | **Free gases** | |  |  |  |
| Water type (as defined in original work) | text |  | Sr [mg/L] | numeric (4.4) |  |  |  |  |
|  | NH4 [mg/L] | numeric (4.4) |  | N2 [Vol.-%] | numeric (2.2) |  |  |  |
|  |  |  | Fe [mg/L] | numeric (4.4) |  | CO2 [Vol.-%] | numeric (2.2) |  |  |  |
| **References** | |  | Mn [mg/L] | numeric (4.4) |  | O2 [Vol.-%] | numeric (2.2) |  |  |  |
|  | F [mg/L] | numeric (4.4) |  | Ar [Vol.-%] | numeric (2.2) |  |  |  |
| Date of analysis | date (DD/MM/YYYY) |  | Br [mg/L] | numeric (4.4) |  | He [Vol.-%] | numeric (2.2) |  |  |  |
| Number of analysis | numeric (2) |  | I [mg/L] | numeric (4.4) |  | H2 [Vol.-%] | numeric (2.2) |  |  |  |
| Institution | text |  | NO3 [mg/L] | numeric (4.4) |  | CH4 [Vol.-%] | numeric (2.2) |  |  |  |
| Citation | text |  | NO2 [mg/L] | numeric (4.4) |  | C2H6 [Vol.-%] | numeric (2.2) |  |  |  |
| Observations | text |  | CO3 [mg/L] | numeric (4.4) |  | C3H8 [Vol.-%] | numeric (2.2) |  |  |  |
|  |  |  | H2SiO3 [mg/L] | numeric (4.4) |  | CO [Vol.-%] | numeric (2.2) |  |  |  |
|  |  |  | HBO2 [mg/L] | numeric (4.4) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Fig. 1: Entity relation diagram for the database of mineral, thermal and deep groundwaters of Hesse. Black arrows mean that entries in fields at the end of the arrow depend on entries in the fields at the beginning of the arrow by formulas. | | | | | | | | | | |