

# Samples

## TerraLID ID

**ID and name:** S0 terralid\_sample\_id

**Provided by:** TerraLID system

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The ID of the sample in the TerraLID database.

**Allowed values and other constraints:** t.b.d.

**Example:** t.b.d.

## 1. Sample identifiers

**ID and name:** S1 sample\_identifiers

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** Identifiers assigned to the sample.

*with the three subproperties:*

### 1.1 Laboratory ID

**ID and name:** S1.1 sample\_id\_lab

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The identifier by which the sample was identified in the lab or publication.

**Allowed values and other constraints:** free text

**Example:** 2024/02

### 1.2 Persistent Identifier

**ID and name:** S1.2 sample\_pid

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** Persistent identifier(s) assigned to the analysed material.

*with the two subproperties:*

#### 1.2.1 Value of persistent Identifier

**ID and name:** S1.2.1 sample\_pid\_value

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** A persistent identifier assigned to the analysed material.

**Allowed values and other constraints:** valid persistent identifier according to [S1.2.2 Type of persistent identifier](#)

**Example:** 10.60510/ICDP5054ESYI201

### 1.2.2 Type of persistent identifier

**ID and name:** S1.2.2 sample\_pid\_type

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** The type of a persistent identifier that was assigned to the sample.

**Allowed values and other constraints:** controlled vocabulary

## 2. Objective of sampling

**ID and name:** S2 sample\_objective

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Short note for which purpose the sample was originally taken.

**Allowed values and other constraints:** free text

**Example:** provenance analysis

## 3. Sampled material

**ID and name:** S3 sample\_material

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** The material that was sampled. This may often be the material recorded at [012 Material](#) but can also be different, especially when a heterogeneous material is sampled.

**Allowed values and other constraints:** controlled vocabulary

## 4. Sampling location

**ID and name:** S4 sample\_location

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Information about where on the object the sample was taken.

*with the two subproperties:*

#### 4.1 Description of sampling location

**ID and name:** S4.1 sample\_location\_description

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** Description of location the sample was taken from.

**Allowed values and other constraints:** free text

**Example:** edge of the coin

#### 4.2 Photo of sampling location

**ID and name:** S4.2 sample\_location\_photo

**Provided by:** data provider

**Obligation:** optional

**Occurrences:** 0–1

**Definition:** Photograph of the sample location. File size must be smaller than 2 MB.

**Allowed values and other constraints:** file path

**Example:** t.b.d.

### 5. Sample type

**ID and name:** S5 sample\_type

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The type of the sampled material.

**Allowed values and other constraints:** controlled vocabulary

### 6. Sample weight

**ID and name:** S6 sample\_weight

**Provided by:** data provider

**Obligation:** optional

**Occurrences:** 0–1

**Definition:** The weight of the sample before analysis.

*with the two subproperties:*

#### 6.1 Value

**ID and name:** S6.1 sample\_weight\_value

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The value of the weight.

**Allowed values and other constraints:** decimal number

**Example:** 3.25

## 6.2 Unit

**ID and name:** S6.2 sample\_weight\_unit

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** SI unit in which the weight is given.

**Allowed values and other constraints:** controlled vocabulary

## 7. Sampling method

**ID and name:** S7 sample\_method

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** The method used to take the sample.

**Allowed values and other constraints:** controlled vocabulary

## 8. Sample condition

**ID and name:** S8 sample\_condition

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The state of the sample after analysis.

**Allowed values and other constraints:** controlled vocabulary

## 9. Sampling date

**ID and name:** S9 sample\_date

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Date when the sample was taken.

**Allowed values and other constraints:** date formatted as YYYY-MM-DD

**Example:** 2024-02-24

## 10. Sampling laboratory

**ID and name:** S10 sample\_laboratory

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Name (and address) of the laboratory, in which the sample was taken.

**Allowed values and other constraints:** free text

**Example:** Geochemistry laboratory of the University of Dreamland

## 11. Sample description

**ID and name:** S11 sample\_description

**Provided by:** data provider

**Obligation:** optional

**Occurrences:** 0–1

**Definition:** Additional information about the sampling process not captured elsewhere.

**Allowed values and other constraints:** free text

**Example:** Sample was drilled with diamond-sputtered steel drill.

## 12. Bulk Pb concentration

**ID and name:** S12 sample\_chemistry\_pb

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** The bulk lead concentration of the sample.

*with the eight subproperties:*

### 12.1 Analytical method

**ID and name:** B4.1 chemistry\_method

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The method used to determine the chemical composition.

**Allowed values and other constraints:** controlled vocabulary

### 12.2 Analysed compound

**ID and name:** B4.2 chemistry\_compound

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** The analysed chemical compound (chemical element or oxide).

**Allowed values and other constraints:** controlled vocabulary, not available if a mass spectrometric-method is recorded in [B4.1 Analytical method](#).

### 12.3 Analysed isotope

**ID and name:** B4.3 chemistry\_icp\_isotope

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** The isotope used for quantification of a chemical element.

**Allowed values and other constraints:** controlled vocabulary, only available if a mass spectrometric-method is recorded in [B4.1 Analytical method](#).

### 12.4 Value

**ID and name:** B4.4 chemistry\_value

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** The concentration of the analysed chemical compound.

**Allowed values and other constraints:** decimal number

**Example:** 15.3

### 12.5 Unit

**ID and name:** B4.5 chemistry\_unit

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** The unit in which the concentration of the analysed chemical compound is given.

**Allowed values and other constraints:** controlled vocabulary

### 12.6 Uncertainty type

**ID and name:** B4.6 chemistry\_uncertainty\_type

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** The type of analytical uncertainty.

**Allowed values and other constraints:** controlled vocabulary

### 12.7 Confidence level

**ID and name:** B4.7 chemistry\_uncertainty\_sigma

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** Sigma value of the reported absolute analytical uncertainty.

**Allowed values and other constraints:** 1, 2, 3

**Example:** 2

## 12.8 Uncertainty value

**ID and name:** B4.8 chemistry\_uncertainty\_value

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** Value of the absolute analytical uncertainty.

**Allowed values and other constraints:** decimal number

**Example:** 0.3

# 13. Sampling person

**ID and name:** S13 sample\_creator

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** Information about the person that took the sample.

*with the nine subproperties:*

## 13.1 Role

**ID and name:** B1.1 person\_role

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** The role in which the person is related to the linked information.

**Allowed values and other constraints:** controlled vocabulary

**Example:** Author

## 13.2 First names

**ID and name:** B1.2 person\_name\_first

**Provided by:** data provider, API (ORCID ID)

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** The first and middle name(s) of the person.

**Allowed values and other constraints:** free text

**Example:** Jane

## 13.3 Last Name

**ID and name:** B1.3 person\_name\_last

**Provided by:** data provider, API (ORCID ID)

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The last name of the person.

**Allowed values and other constraints:** free text

**Example:** Doe

#### 13.4 Persistent Identifier

**ID and name:** B1.4 person\_pid

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** Persistent identifier(s) assigned to the person.

*with the two subproperties:*

##### 13.4.1 VALUE OF PERSISTENT IDENTIFIER

**ID and name:** B1.4.1 person\_pid\_value

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** A persistent identifier assigned to the analysed material.

**Allowed values and other constraints:** Valid persistent identifier according to B1.4.2 Type of persistent identifier

**Example:** 0000–0001–2345–678X

##### 13.4.2 TYPE OF PERSISTENT IDENTIFIER

**ID and name:** B1.4.2 person\_pid\_type

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The type of the persistent identifier.

**Allowed values and other constraints:** controlled vocabulary

#### 13.5 Affiliation name

**ID and name:** B1.5 person\_affiliation\_name

**Provided by:** data provider, API (ORCID ID, ROR ID)

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** The name of the person's affiliation.

**Allowed values and other constraints:** free text

**Example:** Institute of Time Travels

#### 13.6 ROR ID

**ID and name:** B1.6 person\_affiliation\_ror

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** The [ROR](#) of the person's affiliation.

**Allowed values and other constraints:** is valid ROR ID

**Example:** 09af7gtg53

### 13.7 Address

**ID and name:** B1.7 person\_affiliation\_address

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** The address of the person's affiliation.

**Allowed values and other constraints:** free text

**Example:** Teleporter Avenue 123, Ankh–Morpok, United States of Humanities

### 13.8 Mail address

**ID and name:** B1.8 person\_mail

**Provided by:** data provider, API (ORCID ID)

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** The mail address of the person.

**Allowed values and other constraints:** is valid mail address

**Example:** jane.doe@timetravels.int

### 13.9 Website

**ID and name:** B1.9 person\_url

**Provided by:** data provider, API (ORCID ID)

**Obligation:** optional

**Occurrences:** 0–1

**Definition:** The URL of a person.

**Allowed values and other constraints:** is valid URL

**Example:** <https://www.timetravels.int/members/jane-doe>

## 14. Sample status

**ID and name:** S14 sample\_status

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Information about the current status of the sample and how to access it.

*with the two subproperties:*

## 14.1 Institution

**ID and name:** B2.1 status\_institution

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** The institution at which the material is located.

*with the five subproperties:*

### 14.1.1 NAME

**ID and name:** B2.1.1 status\_institution\_name

**Provided by:** data provider, API (ROR ID)

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** Name of the institution.

**Allowed values and other constraints:** free text

**Example:** Institute of Time Travels

### 14.1.2 ROR

**ID and name:** B2.1.2 status\_institution\_ror

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** [ROR](#) of the institution.

**Allowed values and other constraints:** is valid ROR ID

**Example:** 09af7gtg53

### 14.1.3 ADDRESS

**ID and name:** B2.1.3 status\_institution\_address

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Address of the institution.

**Allowed values and other constraints:** free text

**Example:** Teleporter Avenue 123, Ankh–Morpok, United States of Humanities

### 14.1.4 STORAGE LOCATION

**ID and name:** B2.1.4 status\_institution\_location

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Location of the item within the institution.

**Allowed values and other constraints:** free text

**Example:** Archive 9, shelf 3, box 1

#### 14.1.5 CONTACT

**ID and name:** B2.1.5 status\_institution\_contact

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** Contact information for inquiries about the material. This may include, for example, a mail address or phone number of the respective department within the institution or the identification of a specific contact person as well as constraints on the availability of the point of contact such as opening hours.

**Allowed values and other constraints:** free text

**Example:** t.b.d.

#### 14.2 Accessibility

**ID and name:** B2.2 status\_accessibility

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** Is the material accessible to other researchers and do restrictions apply?

**Allowed values and other constraints:** controlled vocabulary

### 15. Relations

**ID and name:** S15 sample\_relation

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** Information about related entities, including analysis made on the sample, and other research output such as publications providing relevant information about the sample. This includes any literature from which information about the sample was extracted.

*with the five subproperties:*

#### 15.1 Persistent Identifier

**ID and name:** B5.1 relation\_pid

**Provided by:** data provider

**Obligation:** recommended

**Occurrences:** 0–n

**Definition:** The persistent identifier or TerraLID ID associated with a resource or related research output. If referring to another entity in the TerraLID database, the TerraLID identifier must be used.

*with the two subproperties:*

##### 15.1.1 VALUE

**ID and name:** B5.1.1 relation\_pid\_value

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** Value of the persistent identifier or TerraLID ID.

**Allowed values and other constraints:** valid persistent identifier according to the options listed in B5.1.2 Type .

**Example:** 10.60510/ICDP5054ESYI201

#### 15.1.2 TYPE

**ID and name:** B5.1.2 relation\_pid\_type

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1

**Definition:** The type of the identifier.

**Allowed values and other constraints:** controlled vocabulary

#### 15.2 Full reference

**ID and name:** B5.2 relation\_text

**Provided by:** data provider, API (DOI)

**Obligation:** recommended

**Occurrences:** 0–1

**Definition:** The full reference of a publication.

**Allowed values and other constraints:** free text

**Example:** Palinkaš, L. A., 1985, Lead isotope patterns in galenas from some selected ore deposits in Croatia and NW Bosnia, Geološki Vjesnik, 38, 175–89.

#### 15.3 Kind of relation

**ID and name:** B5.3 relation\_kind

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** Relationship between item and the research output.

**Allowed values and other constraints:** controlled vocabulary

#### 15.4 Type of resource

**ID and name:** B5.4 relation\_resource

**Provided by:** data provider

**Obligation:** mandatory

**Occurrences:** 1–n

**Definition:** Type of resource or research output.

**Allowed values and other constraints:** controlled vocabulary

#### 15.5 Additional details

**ID and name:** B5.5 relation\_detail

**Provided by:** data provider

**Obligation:** optional

**Occurrences:** 0–n

**Definition:** Additional information about the relation, e.g., if the related work addresses a specific aspect of the item (e.g., the geological setting).

**Allowed values and other constraints:** free text

**Example:** Information about the dating of the site.