Data dictionaries

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# Data dictionaries

## 1.1. Group characterization

## 1.2. Single characterization

## 1.3. Petrographic characterization

Data dictionary for petrographic description of the geological samples.

| Variable | Allowed values | Description | Reference |
| --- | --- | --- | --- |
| ID | - | Individual thin section ID. | - |
| Outcrop/level | - | Outcrop name or archaeological level. | - |
| Lithology | - | Type of rock | - |
| Texture | Mudstone, Wackestone, Packstone, Grainstone, Boundstone, Other | Mudstone: Muddy carbonate rock containing less then 10 % grains; Wackestone: Mud-supported carbonate rock containing more than 10 % grains; Packstone: Grain-supported muddy carbonate rock; Grainstone: Mud-free carbonate rocks, which are grain supported; Boundstone: Carbonate rocks showing signs of being bound during deposition. | According to (**dunhamClassificationCarbonateRocks1962?**) |
| Microstructure | Homogeneous, Banded, Laminar, Nodular, Brexoid, Other | Distribution of crystals and clasts within the rock at a microscopic scale. Homogeneous: equally spread in the rock; Banded: distributed in bands; Nodular: distributed in clumps; Brechoid: fracturing of the rock irregularly. | According to (**castro\_dorado\_petrografibasica\_1989?**), pp. 21 |
| Orthochem | - | Materials formed in two ways: 1) deposited directly from supersaturated aqueous solutions due to chemical reactions or evaporation; 2) formed by the replacement of existing sedimentary materials. | According to (**vernonMicrostructuresSedimentaryRocks2018?**), pp. 24-25 |
| Orthochem type | Essential (ES), Accessory (AC), Secondary (SE) | Essential: minerals that form more than 5% of the volume of the rock; Accessory: Minerals with proportion of less than 5% of the volume of the rock; Secondary: products of the alteration (hydrothermal or physical), independent of the proportion within the rock. | According to (**castro\_dorado\_petrografibasica\_1989?**), pp. 26 |
| Orthochem description | - | General description of the orthochem and where it is identified. | - |
| Orthochem (%) | - | Approximate percentage of the orthochem’s presence in the total thin-section area. | According to (**scholleColorGuidePetrography2003?**) |
| Allochem | - | Material formed by the movement and reorganization into new shapes by chemical, physical or biological processes within the depositional basin (ex. ooliths, fecal pellets, iron oxide minerals). | According to (**vernonMicrostructuresSedimentaryRocks2018?**), pp. 25, 27 |
| Allochem (freq) | Rare, Uncommon, Common, Very frequent | Rare: present one or two elements; Uncommon: present three to 10 elements; Common: present 11 to 20 elements; Very frequent:> 20 elements. | - |
| Bioclast | - | Also known as skeletal particles, are the remains (complete or fragmented) of the hard parts of carbonate-secreeting organisms. | According to (**adamsAtlasSedimentaryRocks1988?**), pp. 39 |
| Bioclast (freq) | Rare, Uncommon, Common, Very frequent | Rare: present one or two elements; Uncommon: present three to 10 elements; Common: present 11 to 20 elements; Very frequent:> 20 elements. | - |
| Porosity (%) | - | Approximate frequency of effective porosity. | According to (**scholleColorGuidePetrography2003?**) |
| Porosity type | Interparticle, Moldic, Fenestral, Fracture, Vuggy, Shelter, Other | Interparticle: porosity between particles; Moldic: Porosity formed by selective removal of an individual constituent of the rock; Fenestral: Pores larger than grain-supported interstices (interparticle); Fracture: Porosity formed by fracturing; Vug: Pores larger then 1/16 mm in diameter and somewhat equant in shape; Shelter: Porosity created by the sheltering effect of large sedimentary particles; Other: Other types of porosity. | According to (**choquetteGeologicNomenclatureClassification1970?**) |
| Sedimentary structures | Parallel lamination, Convoluted lamination, Bands/zonations, Burrow, Other | Parallel lamination: sedimentary strata less than 10 mm thick, recognizable due to variation in structure or composition and more or less parallel bounding surfaces; Convoluted lamination: symmetrical about a vertical plane or leaning and asymmetrical, and usually exhibit narrow vertical upturned laminae, often truncated at the top, separated by a broader synclinal downfolds; Bands/zonations: limited areas with different characteristics related to changes in the sedimentation or cementation process; Burrow: bioturbation structures caused by activity of an organism that disrupts the stratification features; Other: Other types of sedimentary structures. | According to (**middletonEncyclopediaSedimentsSedimentary2005?**) |

(Abdolahzadeh et al., 2023)

# References

Abdolahzadeh, A., Leader, G.M., Li, L., Olszewski, D.I., Schurr, T.G., 2023. Heat exposed lithics: An experimental approach to quantifying potlids by temperature. Journal of Archaeological Science: Reports 48, 103894. <https://doi.org/10.1016/j.jasrep.2023.103894>