# Petrography dataset

Table 1: Dataset for petrographic analysis

| Variable | Allowed.Values | Description | Reference |
|---|---|---|---|
| **ID** | | Individual thinsection 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 Dunham (1962) |
| **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 Dorado (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 Vernon (2018, 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 Dorado (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. | |
| **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 Vernon (2018, 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 Adams, McKenzie and Guilford (1991, 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. | |
| **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 Choquette and Pray (1970) |
| **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 Middleton et al. (2003) |