Cambridge Carbonates Ltd

Expertise in carbonate and evaporite systems

Well name: O18-01 | Date: 18 December 2018 | Scale: 1:50

Formation: Core 7: Silurian | Logging Team: Peter GUTTERIDGE/ Alberto RIVA/ Jo GARLAND

Carbonates:

Sedimentary Structures:

Components:

Lithology:

- Mudstone/Shale
- Siltstone
- Argillaceous Sandstone

Diagenetic features:

Karst features:

Karst association:

Clastics:

Sedimentary Structures:

- wavy bedding
- parallel lamination
- climbing current ripple lamination
- starved ripple
- low angle cross bedding
- load cast
- Structureless

Components:

- intraclast

Main cement type:

- Silica

Depositional Environment:

- Distal siliciclastic turbidites

Bed contacts:

- sharp
- scoured
- gradational
- undulating

Fracture:

- Cemented fracture

Thin sections | Core depth m | Clastic sedimentary structures: Dolomite Crystal Size (Coarse, Mediur, Fine); Grain Size (Boulder, Cobble, Pebble, Granule, Very coars, Coarse san, Medium sc, Fine sand, Silt, Mud); Clastic allochems | Lithology | Carbonate sedimentary structures: Carbonate texture (Mudstone, Wackestone, Packstone, Grainstone, Boundstone, Breccia); Carbonate components; Thin section texture | KARST: Karst Texture (Angular, Subangular, Subrounded, Rounded); Karst Fabric (Clast-support, Transitional, Matrix-support); Karst Matrix; Karst Features; Karst Association | Main Cement Type; Diagenetic Features | Fractures: Structure, Dip (0–90) | Porosity Comment; Visible Porosity (Poor, Moderate, Good, Very good) | Plug porosity (%) (0–20) | Plug permeability (mD) (0.1–100) | Depositional Environment | Depositional cycles | Formation | Comments

Core depth m	Lithology	Fracture	Formation	Comments
9956			Silurian	Fine structureless sandstone with laminated and loaded base. Laminated siltstone with isolated ripples and thin layers of graded fine sandstone beds.
9958				
9960				Fine- to very fine sandstone beds with sharp and sometimes loaded bases.
9962				Fine- to very fine sandstone graded beds with loaded bases.
9964				Dewatered sandstone bed.
9966		Hairline fracture infilled by quartz.		
9968				Starved ripples and laminated graded beds with undulatory and loaded bases. Cross-bedded fine sandstone at base of sand layer with convex-down erosional and loaded base.
9970				
9972				
9974				Thickly-bedded very fine/fine sandstone with loaded and scoured bases alternating with intervals of undulatory lamination and thinner graded beds interbedded with mm-laminated siltstone with graded laminae of very fine sandstone.
9976		Hairline fractures infilled by quartz.		
9978				
9980		Hairline fracture infilled by quartz.		
9982			Silurian	Loaded and erosional base of fine sandstone. Laminated and slumped siltstone with thin layer of graded fine to very fine sandstone.
9984				
9986		Oblique and vertical fractures infilled by rose quartz.		
9988				
9990				
9992				
9994				
9996				Shear zone cemented by quartz with lining of dark grey sheared clay. Conjugate syn-sedimentary fractures associated with later brittle fractures infilled by rose quartz.
9998				Laminated graded bed of fine sandstone with undulatory loaded base; bedding is inclined.
10000		Oblique and vertical fractures infilled by milky and rose quartz.		Mudstone with very thin layers of very fine sand. Oblique zone of brecciation with en-echelon tabular angular tabular clasts of the host rock suggesting sinistral oblique shear. Load casts in fine- to very-fine laminated sandstone. Structureless fine sandstone with sharp base and medium sand-sized intraformational mud clasts.
10002				
10004		Oblique and vertical fractures infilled by rose quartz.		Very thinly bedded, graded very fine sand to silt graded beds. Loaded dewatered fine sandstone.
10006				
10008			Silurian	Slumping of very fine, laminated sandstone. Sub-vertical zone of breccia cemented be rose quartz with sub-angular shards of dark grey uniform mudstone, unlike surrounding rock. Possible injection associated with slumping in host rock. Clear or milky quartz is initial cement in fractures with the rose quartz is the latest stage of cementation.