Cambridge Carbonates Ltd

Expertise in carbonate and evaporite systems

Well name: WSK-01 **Date:** 10 January 2019 **Scale:** 1 : 50

Formation: Core 1: Zeeland Formation **Logging Team:** Peter GUTTERIDGE/Alberto RIVA/ Joanna GARLAND/Julie DEWIT

Carbonates:

Sedimentary Structures:

- parallel lamination
- Structureless

Components:

- bivalves
- solitary rugose coral
- echinoderms
- Burrows - general
- Brachiopod

Clastics:

Sedimentary Structures:

Components:

Lithology:

- Argillaceous Limestone

Diagenetic features:

- calcite nodule
- pyrite

Karst features:

Karst association:

Main cement type:

Depositional Environment:

- Basinal
- Resedimented and slumped carbonates

Bed contacts:

- scoured

Fracture:

- Bedding

Thin sections	Core depth m	Clastic sedimentary structures / Dolomite Crystal Size / Grain Size / Clastic allochems	Lithology	Carbonate sedimentary structures / Carbonate texture / Carbonate components / Thin section texture	KARST: Karst Texture / Karst Fabric / Karst Matrix	Karst Features	Karst Association	Main Cement Type / Diagenetic Features	Fractures / Structure / Dip	Porosity Comment / Visible Porosity	Plug porosity (%)	Plug permeability (mD)	Depositional Environment	Depositional cycles	Formation	Comments
	4434										0.70					Silty shale/carbonate mudstone with fragmented crinoids, brachiopod shells, foraminifera, trilobite, fenestrate bryozoans and very finely comminuted bioclasts. Bioclasts are parallel to bedding with minor bioturbation.
	4435							C			0.70					
								C			1.20					
											0.40					Very thin layers of bioclastic calcarenite and calcisiltite with loaded and bioturbated bases. Pyrite replacement of coarser bioclasts.
											0.80					
	4436							Py			1.30					Reworked solitary rugose coral.
											0.70					
											0.90					
								C			0.80					Shale/argillaceous carbonate mudstone with abraded crinoids, brachiopod shells, foraminifera, ostracods, fenestrate bryozoans and finely comminuted bioclasts. Coarser bioclasts occur in layers parallel to bedding. This alignment is disrupted by burrows. Pyrite replacement of coarser bioclasts.
	4437															
								Py			1.20					
											0.30					Concentrations of crinoids and brachiopod shells with sub-horizontal alignment.
											1.10					
	4438							C			0.40					
											0.90					Shale/argillaceous carbonate mudstone with abraded crinoids, brachiopod shells, palaeoberesellids, ostracods, fenestrate bryozoans and very finely comminuted bioclasts. Bioclasts occur in concentrations parallel to bedding. Some burrows are infilled by siliciclastic shale and very finely comminuted bioclasts.
								C			0.60					
	4439										0.30					
								C			1.50					Intervals with concentrations of whole bioclasts that have a sub-horizontal alignment, mainly whole brachiopod shells with occasional articulated valves, also common crinoinds and bivalves.
											0.80					
											0.40					
	4440										1.40					
								Py C Py			0.60					Calcite concretion with septarian fractures infilled by coarsely crystalline calcite cement and pyrite.
											0.60					
	4441										1.60					
								C			0.90					
								C								Scattered comminuted bioclasts in argillaceous carbonate mudstone/wacketone with thin bioturbated layer of calcisiltite.
	4442															

Porosity: No porosity

Zeeland Formation