

# **Sedimentary Rocks in the Field: A Practical Guide, 4th Edition**

By Maurice E. Tucker, 2011

## **Table of Contents**

### **Preface**

### **Acknowledgements**

### **1 Introduction**

- 1.1 Tools of the Trade.
- 1.2 Other Tools for the Field.
- 1.3 Use of GPS (Global Positioning System) in Sedimentary Studies.
- 1.4 Safety in the Field and General Guidance for Fieldwork.

### **2 Field Techniques.**

- 2.1 What to Look For.
- 2.2 The Approach.
- 2.3 Field Notes.
- 2.4 Graphic Logs.
- 2.5 The Logging of Cores.
- 2.6 Lithofacies Codes.
- 2.7 Collecting Specimens.
- 2.8 Presentation of Results.
- 2.9 The Way-Up of Sedimentary Strata.
- 2.10 Stratigraphic Practice.

### **3 Sedimentary Rock Types.**

- 3.1 Principal Lithological Groups.
- 3.2 Sandstones.
- 3.3 Conglomerates and Breccias.
- 3.4 Mudrocks.
- 3.5 Limestones.
- 3.6 Evaporites.
- 3.7 Ironstones.
- 3.8 Cherts.
- 3.9 Phosphate Deposits (Phosphorites).
- 3.10 Organic-Rich Deposits.
- 3.11 Volcaniclastic Deposits.

### **4 Sedimentary Rock Texture.**

- 4.1 Introduction.
- 4.2 Sediment Grain-Size and Sorting.
- 4.3 Grain Morphology.
- 4.4 Sediment Fabric.
- 4.5 Textural Maturity.
- 4.6 Texture of Conglomerates and Breccias.
- 4.7 Induration and Degree of Weathering.
- 4.8 Colour of Sedimentary Rocks.

### **5 Sedimentary Structures and Geometry of Sedimentary Deposits.**

- 5.1 Introduction.
- 5.2 Erosional Structures.
- 5.3 Depositional Structures.
- 5.4 Depositional Structures of Limestones (Including Dolomites).
- 5.5 Post-Depositional Sedimentary Structures.
- 5.6 Biogenic Sedimentary Structures.
- 5.7 The Geometry of Sedimentary Deposits and Lateral Facies Changes.

### **6 Fossils in the Field.**

- 6.1 Introduction.
- 6.2 Fossil Distribution and Occurrence.
- 6.3 Fossil Associations and Diversity.
- 6.4 Skeletal Preservation (Taphonomy) and Diagenesis.

### **7 Palaeocurrent Analysis.**

- 7.1 Introduction.
- 7.2 Palaeocurrent Measurements.
- 7.3 Structures for Palaeocurrent Measurement.
- 7.4 Presentation of Results and Calculation of Vector Means.
- 7.5 Interpretation of the Palaeocurrent Pattern.

### **8 What Next? Facies Identification and Sequence Analysis.**

- 8.1 Introduction.
- 8.2 Facies Analysis.
- 8.3 Facies, Facies Models and Depositional Environments.
- 8.4 Cycle Stratigraphy and Sequence Stratigraphy.

### **Recommended Reading**

### **Index**