

THE DESCRIPTION & ANALYSIS OF
QUATERNARY STRATIGRAPHIC
FIELD SECTIONS

Technical Guide No. 7

Edited by
A.P. Jones, M.E. Tucker & J. Hart

CONTENTS

<i>List of Contributors</i>	I
<i>Preface</i>	III
<i>Acknowledgements</i>	IV

PART I

1. Introduction

Jones, A.P.

Sedimentology	1
Underlying Rationale	1
Areas of Debate	2
Technical Guide	3
Complementary Texts	4

2. Background to Sedimentary Facies

Jones, A.P.

General Schemes	5
Physical Properties of Sediments	12
Stratigraphy	22

3. Guidelines and Recommendations

Jones, A.P., Tucker, M.E. and Hart, J.K.

Field Stage	27
Description of Stratigraphic Field Sections: Further Information	30
Measurement of the Physical Properties of Sediment Stratigraphies	39
Publication Stage	58
Conclusion	60
References for Part I	62
	63

PART II

4. Alluvial Fans: a Case Study from the Sorbas Basin, Southeast Spain

Mather, A.E.

Introduction	77
Case Study: the Sorbas Basin, Southeast Spain	79
Conclusions	106
References	107

5. Description and Analysis of Quaternary Fluvial Sediments: a Case Study from the Upper River Thames, UK

Lewis, S.G. and Maddy, D.

Introduction	111
The Fluvial Environment	111
Methods for Recording Field Information	116
Case Study: the Upper Thames	118
References	132

6. Pyroclastic and Epiclastic Deposits: a Case Study from the Unzen Volcano, Kyushu, Japan

Jones, A.P. and Ui, T.

Pyroclastics	137
Pyroclastic Deposits	137
Epiclastic Deposits	138
Physical Properties of Pyroclastic and Epiclastics	138
Case Study: the Unzen Volcano, Kyushu, Japan	140
Conclusions	166
References	167

7. Proglacial Fluvial Sedimentary Sequences in Greenland and Iceland: a Case Study from Active Proglacial Environments Subject to Jokulhaups.

Russell, A.J. and Marren, P.M.

Introduction, Aims and Rationale	171
Case Study: Proglacial Fluvial Sedimentary Sequences in Greenland	

and Iceland	171
Summary and Conclusions	203
References	205
8. Glacial Sedimentology: a Case Study from Happisburgh, Norfolk	
<i>Hart, J.K.</i>	
Introduction	209
Glacial Processes	210
Case Study: the Examination of a Quaternary Glacial Site, Happisburgh, Norfolk	217
Conclusion	231
References	231
9. Ice Facies: a Case Study from the Basal Ice Facies of the Russell Glacier, Greenland Ice Sheet	
<i>Knight, P.G. and Hubbard, B.P.</i>	
Introduction	235
Ice Facies Schemes	235
Case Study: Basal Ice Facies of the Russell Glacier, Greenland Ice Sheet	241
Conclusion	247
References	247
10. Permafrost: a Case Study in Cryostratigraphy, Pleistocene Mackenzie Delta, Western Canadian Arctic	
<i>Murton, J.B.</i>	
Introduction	249
Ground Ice	250
Cryostructures	251
Cryofacies	254
Ice Contacts	254
Case Study: Cryostratigraphy, Pleistocene Mackenzie Delta, Western Canadian Arctic	255
Conclusions	262
References	263

**11. Coastal Stratigraphy: a Case Study from Johns River,
Washington**

Long, A.J., Innes, J.B., Shennan, I. and Tooley, M.J.

Introduction	267
Free-Face Sections and Boreholes	267
Stratigraphic Descriptions	268
Field Safety	269
Procedure	269
Case Study: Coastal Stratigraphy in Western North America	274
Conclusions	282
References	283
Appendix 1	287
Appendix 2	288
Index	291