
CONTENTS

Environmental sampling – Basics Sampler Education Volume 1 of 5

Chapter 1	1
Introduction	1
1.1 Why do we sample?	1
1.2 Approach to sampling	2
1.3 What is a representative sample?	4
1.4 Explanation of key terms in sampling	5
Chapter 2	9
Responsibility	9
2.1 Parties involved in sampling	9
2.2 Responsibility for sampling	12
2.3 Responsibility for health and safety	14
Chapter 3	17
Sampling is a skill.....	17
3.1 The sampling process	17
3.2 Elements of good sampling practice	20
3.3 Sampling method, procedures and equipment	21
3.4 Sampler competence	27
3.5 Sampling documentation	28
Chapter 4	35
The sampling plan.....	35
4.1 General information	36
4.2 Health and safety information	36
4.3 Sampling objectives	36
4.4 Quality objectives	38
4.5 Sampling target and scale	40
4.6 Sampling location and point	41
4.7 Sampling dimension	42
4.8 Sampling design	46
4.9 Sampling equipment and procedures	52
4.10 Leaving the sampling site	53
4.11 Transport, storage and delivery information	53
4.12 Documentation and archiving	54
Chapter 5	57
Major challenges in sampling	57
5.1 Material heterogeneity	57
5.2 Uncertainty and errors	60

5.3	Methods for reducing sampling errors	66
5.4	Expression of quality requirements and uncertainty	68
Chapter 6		73
Validation and quality control		73
6.1	Sampling validation and quality control	73
6.2	Tools for sampling validation and quality control	75
6.3	Sampling quality system	80
Chapter 7		83
Health and Safety		83
7.1	Hazards	83
7.2	Safety equipment	87
7.3	Safety procedures	89
Chapter 8		93
Glossary		93
Chapter 9		105
References		105
Appendices		109
A.1	Suggestions for additional reading	109