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Autore	Misstear B. D. R
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	3 An introduction to well and borehole design3.1 Drilled wells; 3.1.1 General design principles; 3.1.2 Wells in crystalline aquifers; 3.1.3 Wells in consolidated aquifers; 3.1.4 Wells in unconsolidated aquifers; 3.1.5 Economic considerations in well design; 3.2 Hand-dug wells; 3.2.1 Design for yield; 3.2.2 Design for health; 3.3 Infiltration galleries; 3.4 Radial collector wells; 3.5 Observation boreholes; 3.6 Exploration boreholes; 3.7 Pump selection; 3.7.1 Vertical turbine pumps; 3.7.2 Electrical submersible pumps; 3.7.3 Motorized suction pumps; 3.7.4 Helical rotor pumps; 3.7.5 Hand pumps 4 Specific issues in well and borehole design4.1 Choice of construction materials; 4.1.1 Strength; 4.1.2 Jointing system; 4.1.3 Durability; 4.1.4 Chemical inertness; 4.1.5 Standards; 4.2 Casing; 4.2.1 Steel casing; 4.2.2 Plastic and fibreglass casing; 4.3 Screen; 4.3.1 Slot design and open area; 4.3.2 Slot width; 4.4 Gravel pack design; 4.4.1 Natural gravel pack; 4.4.2 Artificial gravel pack; 4.5 Hydraulic design; 4.5.1 Partial penetration effects; 4.5.2 Gravel pack loss; 4.5.3 Screen entrance loss; 4.5.4 Well upflow losses; 4.6 Economic optimization of well design; 4.6.1 General principles 4.6.2 Example5 Well and borehole construction; 5.1 Percussion drilling; 5.1.1 Drilling in hard-rock formations; 5.1.2 Drilling in soft, unstable formations; 5.1.3 Light-percussion drilling; 5.2.6 Nethods of casing and screen installation; 5.3 Auger drilling; 5.2.6 Methods of casing and screen installation; 5.3 Auger drilling; 5.2.6 Methods of casing and screen installation; 5.3 Auger drilling; 5.2.6 Methods
	Driving of well-points; 5.6 Manual construction; 5.7 Well development 5.7.1 Well and aquifer damage
Sommario/riassunto	Water Wells and Boreholes provides the necessary scientific background together with practical advice using global case studies, in an accessible easy to use style suitable for both postgraduates/researchers and practitioners. The book begins with an introduction to the type and uses of water wells from water supply and irrigation through to groundwater remediation. It then covers well siting detailing how to source data from geophysical surveys, remote
	and cost-effective. The book ends with three chapters coveri