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Nota di contenuto	Cover; Title Page; Copyright Page; Dedication; Contents; Preface; Introduction; 1 Environmental Impact - Reality and Myth and Nero Did Not Fiddle While Rome Burned; 1.1 The Tower of Babel and How it Could be the Cause of Much of the Fracking Debate; 2 Production Development; 3 Fractures: Their Orientation and Length; 3.1 Fracture Orientation; 3.2 Fracture Length/ Height; 4 Casing and Cementing; 4.1 Blowouts; 4.2 Surface Blowouts; 4.3 Subsurface Blowouts; 4.4 Horizontal Drilling; 4.5 Fracturing and the Groundwater Debate; 5 Pre-Drill Assessments; 5.1 Basis of Design; 6 Well Construction 6.1 Drilling6.2 Completion; 7 Well Operations; 7.1 Well Plug and Abandonment "P&A"; 7.2 Considerations; 8 Failure and Contamination Reduction; 8.1 Conduct Environmental Sampling Before and During Operations; 8.2 Disclose the Chemicals Being Used in Fracking Operations; 8.3 Ensure that Wellbore Casings are Properly Designed and Constructed; 8.4 Eliminate Venting and Work Toward Green Completions; 8.5 Prevent Flowback Spillage/Leaks; 8.6 Dispose/Recycle Flowback Properly; 8.7 Minimize Noise and Dust; 8.8 Protect Workers and Drivers; 8.9 Communicate and Engage; 8.10 Record and Document 9 Frack Fluids and Composition9.1 Uses and Needs for Frack Fluids; 9.2 Common Fracturing Additives; 9.3 Typical Percentages of Commonly

Used Additives; 9.4 Proppants; 9.5 Silica Sand; 9.6 Resin Coated Proppant; 9.7 Manufactured Ceramics Proppants; 9.8 Additional Types; 9.9 Slickwater; 10 So Where Do the Frack Fluids Go?; 11 Common Objections to Drilling Operations; 11.1 Noise; 11.2 Changes in Landscape and Beauty of Surroundings; 11.3 Increased Traffic; 11.4 Subsurface Contamination of Ground Water; 11.5 Impacts on Water Wells; 11.6 Water Analysis; 11.7 Types of Methane and What They Show Us
11.8 Biogenic 11.9 Thermogenic; 11.10 Possible Causes of Methane in Water Wells; 11.11 Surface Water and Soil Impacts; 11.12 Spill Preparation and Documentation; 11.13 Other Surface Impacts; 11.14 Land Use Permitting; 11.15 Water Usage and Management; 11.16 Flowback Water; 11.17 Produced Water; 11.18 Flowback and Produced Water Management; 11.19 Geological Shifts; 11.20 Induced Seismic Event; 11.21 Wastewater Disposal Wells; 11.22 Site Remediation; 11.23 Regulatory Oversight; 11.24 Federal Level Oversight; 11.25 State Level Oversight; 11.26 Municipal Level Oversight
11.27 Examples of Legislation and Regulations 11.28 Frack Fluid Makeup Reporting; 11.29 FracFocus; 11.30 Atmospheric Emissions; 12 Air Emissions Controls; 12.1 Common Sources of Air Emissions; 12.2 Fugitive Air Emissions; 12.3 Silica Dust Exposure; 12.4 Stationary Sources; 12.5 The Clean Air Act; 12.6 Regulated Pollutants; 12.7 NAAQS Criteria Pollutants; 12.8 Attainment Versus Non-attainment; 12.9 Types of Federal Regulations; 12.10 MACT/NESHAP HAPs; 12.11 NSPS Regulations: 40 CFR Part 60; 12.12 NSPS Subpart OOOO; 12.13 Facilities/Activities Affected by NSPS OOOO
12.14 Other Types of Federal NSPS and NESHAP/MACT Regulations

Sommario/riassunto

This book presents both sides of a very controversial subject in today's media: induced hydraulic fracturing, or "fracking." It covers the technology and methods used in hydraulic fracturing in easy-to-understand language, for the engineer and layperson alike, presenting the environmental effects of hydraulic fracturing.
