

ISO 13503-5:2006-07 (E)

Petroleum and natural gas industries - Completion fluids and materials - Part 5: Procedures for measuring the long-term conductivity of proppants

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative reference	1
3	Terms and definitions	1
4	Abbreviations	2
5	Procedures for evaluating long-term proppant pack conductivity	2
5.1	Objective	2
5.2	Discussion	2
6	Reagents and materials	3
6.1	Test fluid	3
6.2	Sandstone	3
7	Long-term conductivity test apparatus	3
7.1	Test unit	3
7.2	Hydraulic load frame	3
7.3	Pack width measurement device(s)	3
7.4	Test fluid drive system	3
7.5	Differential pressure transducers	4
7.6	Back-pressure regulators	4
7.7	Balance	4
7.8	Oxygen removal	4
7.9	Temperature control	4
7.10	Silica saturation and monitoring	5
8	Equipment calibration	5
8.1	Pressure indicators and flow rates	5
8.2	Zero pack width measurement	5
8.3	Determination of cell width	6
8.4	Hydraulic load frame	6
9	Leak tests	6
9.1	Hydraulic load frame	6
9.2	Test fluid system	6
10	Procedure for loading the cells	6
10.1	Preparation of the test unit	6
10.2	Cell setup	7
11	Loading cell(s) in the press	9
12	Acquiring data	9
13	Calculation of permeability and conductivity	10

14	Data reporting	11
	Annex A (informative) Conversion factors	12
	Annex B (normative) Silica-saturation vessel setup	13
	Annex C (informative) Figures	15
	Bibliography	24